PRINTING EQUIPMENT ENGINEER

AUGUST 1935

TECHNICAL PUBLICATION FOR PRODUCTION AND

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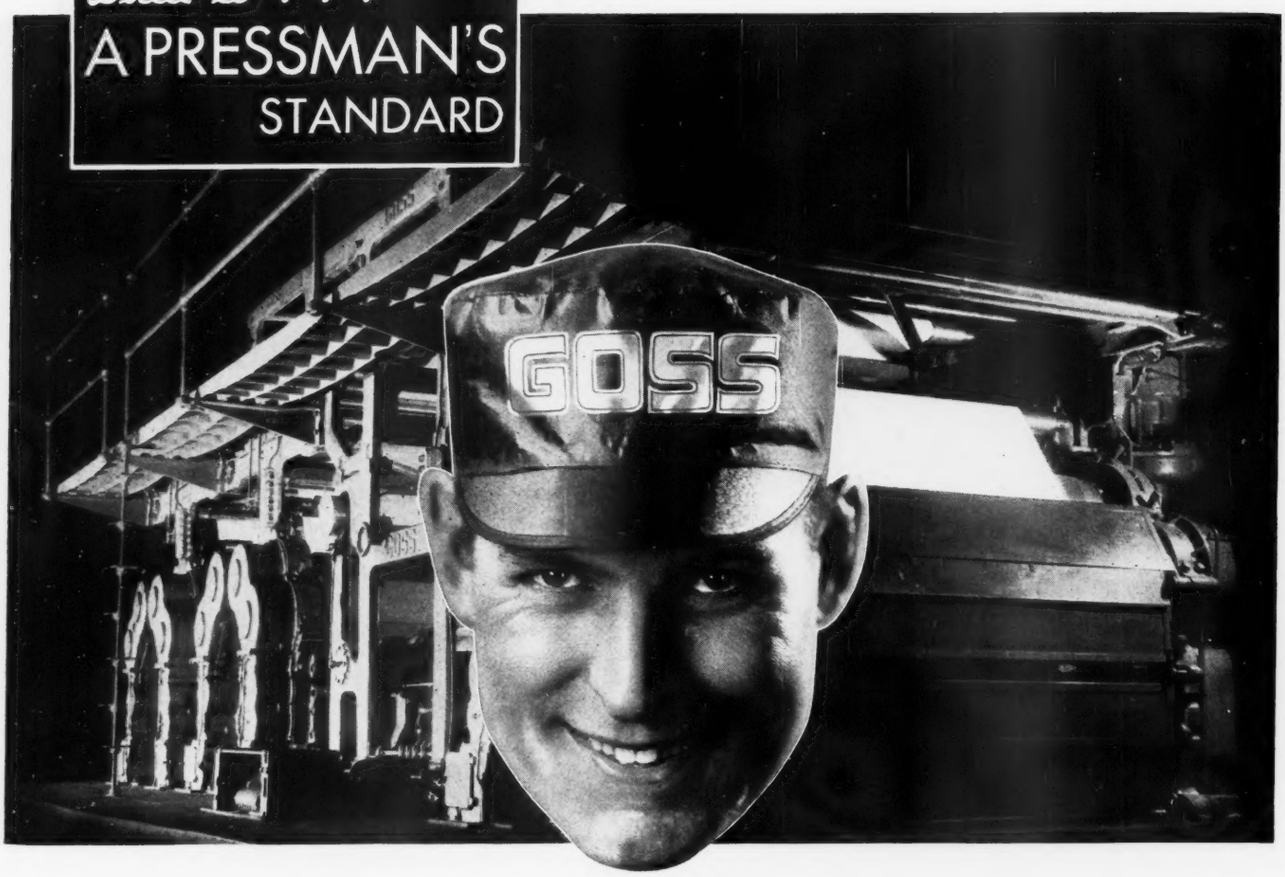
A PRESSMAN'S STANDARD



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THE preservation of clear eyesight for young and old is perhaps the greatest contribution that could possibly be made to mankind.

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All of these elements are carefully considered by the largest producers of printing and lithography, which accounts for their wide adoption of complete Ideal Roller equipment. Years of manufacturing experience and research are back of these products. You cannot afford to gamble with rollers of questionable merit.

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HERE are the *four* big reasons why more newspapers every year are changing to Goodyear Rubber Ink Rollers—Form · Feed · Vibrator.

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Equip a press with Goodyear Rubber Rollers—Goodyear Red Top Felt Blankets and Goodyear Rubber Underpacking, too—and see for yourself how much these press-proved products improve printing. For complete information, drop a line to Goodyear, Akron, Ohio, or Los Angeles, California.

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Now your presses can be equipped completely with Goodyear Products

Goodyear Red Top Felt Blankets
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Made by the makers of Goodyear Tires

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GOODYEAR

MORE NEWSPAPERS ARE PRINTED ON GOODYEAR RUBBER UNDERPACKING THAN ON ANY OTHER KIND

Associate Member
National Printing Equipment
Association, Inc.

AUGUST 1935
VOLUME 50 Number 5

Printing EQUIPMENT Engineer

Trade-Mark Registered U. S. Pat. Office

Published by Don Will
Edited by Mac Sinclair

A Technical Publication for Mechanical Executives Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Fields.

Established 1910

CCA
Member Controlled Circulation Audit

Share Your Knowledge With Others

The key men in your organization will appreciate looking over the pages of this magazine. Perhaps one of them will be able to put some particular technical idea to good use in your plant.

Place a check mark in each square for attention of the department head or assistant whom you wish to look over special articles in this issue.

- ☐ *Production Manager*
- ☐ *Mechanical Superintendent*
- ☐ *Composing Room Superintendent*
- ☐ *Chief Composing Room Machinist*
- ☐ *Monotype Department*
- ☐ *Photo Engraving Department*
- ☐ *Foreman Lithographing Department*
- ☐ *Superintendent Stereotype Foundry*
- ☐ *Superintendent Electrotype Department*
- ☐ *Superintendent Press Room*
- ☐ *Bindery Foreman*
- ☐ *Manager*
- ☐ *Purchasing Agent*

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CANDLELIGHT VISIBILITY

BLACK & WHITE Matrix Contrast Service makes it easy to *see* the reference marks on line composing machine matrices. That means fewer errors, less non-productive time, and faster composition.

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Think of the savings of machine-time — think how much less handling of corrections by floor men — and think of the fewer noticeable errors in railroaded news matter. Not to mention the many large savings effected on ad composition.

Let us send you actual figures on all these savings. Write to us now — while you have it in mind.

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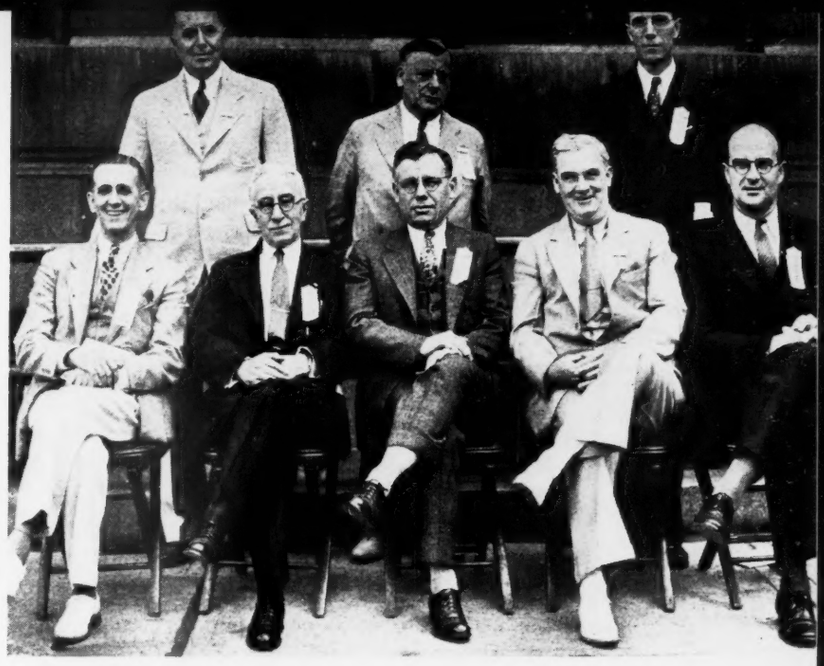


Back Row Standing: DeWitt A. Patterson, Chicago, Chairman International Educational Commission; Fred J. Hagen, Chicago, Past President, and George J. Marshall, Toronto, Third Vice President.

Front Row Seated: John B. Curry, Boston, First Vice President; L. M. Augustine, Baltimore, Secretary; Thos. S. Cordis, San Francisco, President; Mark A. Mullee, Newark, N. J., Treasurer, and Clark R. Long, Washington, D. C., Second Vice President.

Craftsmen

Convention Program Called a Post-Graduate Course

By Staff Writer

The Sixteenth Annual Convention of the International Association of Printing House Craftsmen will be held in Cincinnati at the Netherland Plaza Hotel on Monday, Tuesday and Wednesday, August 26, 27 and 28. It is expected that between 600-800 Craftsmen will be in attendance.

The subjects to be discussed have been called a post-graduate course in the Graphic Arts since all mechanical departments of the commercial printing plant will have a place on the program.

Early arrivals in Cincinnati on Sunday, August 25, will be treated to a personally conducted tour of the city by members of the Cincinnati Club of Printing House Craftsmen.

Throughout the sessions of the International Association of Printing House Craftsmen convention special attention of visitors will be called to the exhibits arranged under the supervision of Lee V. Augustine. The exhibits will include displays of water-color printing, entries in the *Inland Printer* Cover Contest from all over the world, displays of foreign printing, and twelve "working exhibits."

J. H. Christina is chairman of plant visitations and he has arranged for the visitors to see the plants of two daily newspapers, the *Times-Star* and the *Enquirer* when the plants are in production and the presses are at work. Other visits will be made to the Methodist Book Concern, the Quality Engraving and Electrotype Co., and the Cincinnati Process Engraving Co. Other visiting opportunities will be arranged in addition to the scheduled trip to the Champion Coated Paper Co. mills at Hamilton, O., twenty-five miles north of Cincinnati, Wednesday afternoon, August 28.

For the golfers arrangements have been made at one of the best local clubs. A nominal fee will be charged.

SUNDAY, AUGUST 25

7 p. m.—Special "Early Birds" party—"Over the Rhine Night." Dutch Lunch, Music and Entertainment. Netherland Plaza Hall of Mirrors.

MONDAY, AUGUST 26—8:30 A. M.

Convention comes to order, John M. Callahan, General Chairman, presiding.
Address of Welcome, Mayor Russell Wilson of Cincinnati.
Presentation of International President Thos. E. Cordis by Theo. C. Dorl, President of Cincinnati Club.
Response to Address of Welcome, Clark R. Long, International Second Vice President.
"Arch of Printing Development," A. H. Kelley, President, Memphis Club Printing House Craftsmen.
Appointment of Committees: Credentials, Resolutions, Constitution and By-Laws, Officers' Reports and Finance.
"Craftsmanship," Hon. A. E. Giegengack, U. S. Public Printer and Past International President.
Report of Credentials Committee.
Roll Call of Clubs.
"Advertising Layout," W. H. Badke, Copy and Art Director, Olsen Pub. Co., Milwaukee, Wis.
Resolutions and Amendments.
"Meinograph Process," A. T. Wickham, President, Meinograph Sales Corp.
Adjournment.

Thanks, Mr. Twelker

Printing Equipment *Engineer*,
Cleveland, Ohio.

Gentlemen:—*Printing* Equipment *Engineer* appeared to be just what I was looking for when I asked for a sample copy. I found very much in it of interest to me.

E. B. Twelker, *Purchasing Agent*,
The Scripps League of Newspapers,
Seattle, Washington.

Chairmen

of Committees for Cincinnati Craftsmen Convention

JOHN M. CALLAHAN, *General Chairman.*
HERB CHRISTINA, *Vice Chairman.*
AUGUST BRUDER, *Secretary.*
JIM SULLIVAN, *Treasurer.*
CARL HUETHER, *Transportation.*
LEO T. FOLZ, *Badge and Decorations.*
ALEX THOMSON, JR., *Entertainment.*
WM. E. RICHARDS, *Hosts.*
MRS. GEORGE WAGNER, *Ladies*
BEN WOERMANN, *Publicity.*
JOS. KORNMANN, *Registration.*
LEE AUGUSTINE, *Exhibits.*
JACOB NESSLER, *Finance.*
MESSRS. JOHN M. CALLAHAN and THEO. C. DORL, *Hotel and Banquets.*
E. J. MCGILL, *Printing.*
MESSRS. JOHN M. CALLAHAN and THEO. C. DORL, *Program nad Souvenir.*
HERB CHRISTINA, *Plant Visitation.*
LEE AUGUSTINE, *Registration Souvenir.*

For those who wish to make the tour and for the ladies there will be a trip to Cincinnati points of interest:

Places to be visited are: Taft Memorial, Art Museum, Rookwood Pottery, Eden Park Conservatory, Eden and Ault Parks and the Cincinnati Zoological Garden for luncheon. After luncheon, visitors may wander through the Zoo gardens, returning to the hotel at will.

MONDAY, AUGUST 26, 2:00 P. M.

Theo. C. Dorl, President Cincinnati Craftsmen, presiding.
"Lithographic Research," Prof. Paul W. Dorst, Research Department, University of Cincinnati.
Convention committees will meet at 3:30 p. m.

MONDAY, AUGUST 26, 5:00 P. M.

Official Party on steamer, "Island Queen," for trip up the Ohio River to Coney Island.

Dinner will be served in the Club House at the Island at 6:15 P. M. There will be dancing on the Steamer and in the Moonlite Gardens at Coney Island. At 11:00 P. M., the return to Cincinnati will be made on the "Island Queen" with dancing abroad.

TUESDAY, AUGUST 27, 9:00 A. M.

Presiding officer to be announced.
Convention comes to order in Netherland Plaza Hall of Mirrors.
Presentation of International Officers' Reports.
"Rollers," Frank H. Stevens, Jr., President, National Association of Printers' Roller Manufacturers, Inc.
Presentation of Reports of Committees on Constitution and By-Laws, Resolutions and Credentials.
"The Mystery of Colors," Prof. John F. Earheart, University of Cincinnati.
Announcements.
Adjournment.

TUESDAY, AUGUST 27, 9:30 A. M.

Tour of Cincinnati Department Stores, arranged by Alexander Thomson, Jr., Chairman of the Convention Entertainment Committee, and Mrs. George Wagner, Chairman of the Ladies' Committee.

TUESDAY, AUGUST 27, 2:00 P. M.

Bridge Party at the Netherland Plaza Hotel.

TUESDAY, AUGUST 27, 7:00 P. M.

Annual Banquet and Ball at Netherland Plaza Pavilion Caprice. "No speeches and dress optional."

WEDNESDAY, AUGUST 28, 9:00 A. M.

Convention assembles in Netherland Plaza Hall of Mirrors.
Report of Educational Commission, Chairman DeWitt A. Patterson.
"What the Employer Expects from His Foreman," William H. Sleepeck, President, Sleepeck-Holman Company.
Reports of Committees on Constitution and By-Laws, Resolutions, Finance and Officers' Reports.
"Problems in the Pressroom and How to Overcome Them," Summerfield Eney, Jr., Champion Coated Paper Co.
Choice of Convention City.
Nomination, Election and Installation of International Officers.
Convention Summary, John J. Deviny, Executive Vice President, U. T. A., Washington, D. C.

WEDNESDAY, AUGUST 28, 1:00 P. M.

Trip Through Champion Coated Paper Co. Mills, Hamilton, Ohio, returning to Netherlands Plaza that evening.

Manual of Stereotyping

IN PUBLISHING his 256-page technical book on stereotyping, Joseph Goggin has rendered a distinct service to the printing industry. Since introduction of the dry mat, the Stereotyping Art has been in need of some kind of textbook which would standardize plate-making technique. Very little technical literature about the dry mat has appeared. The stereotyper has had to feel his way in the matter of proper manipulation, often conducting costly experiments in attempts to obtain the best possible plate. Such technical literature as has been printed about the dry mat was of a transitory nature because it was not a permanent solution for the difficulties arising in the development of a new technique.

A further note on the service Mr. Goggin has rendered the industry is that in preparing the book he acknowledges freely the assistance given by leading stereotypers in the craft, equipment designers and engineers. Owing to the paucity of stereotype technical literature with the resultant scarcity of manipulation standards, the contents of the book probably

Joseph Goggin, Author of the New Book Entitled "Manual of Stereotyping."

ANNOUNCEMENT

IRA D. PILLIARD
BECOMES
ASSOCIATE EDITOR
OF
Printing
EQUIPMENT
Engineer

COMMERCIAL *and newspaper printing plant mechanical executives tell* Printing EQUIPMENT Engineer *they like the entire editorial and advertising content of our magazine because they want to know what is being developed in the other major branches of the Graphic Arts. In other words, the commercial printing plant executive secures ideas which can be turned to useful application. Likewise, the newspaper mechanical executive applies ideas toward improving production in his plant. Then, too, there is the executive in the plant doing both commercial and newspaper printing who adopts eagerly the production helps to be found in this magazine.*

Encouraged by these expressions from our readers and to be of the widest possible use to commercial and newspaper printing plant mechanical executives, Printing EQUIPMENT Engineer *is pleased to announce the engagement of Ira D. Pilliard as Associate Editor. Mr. Pilliard will specialize in commercial printing plant technical material, especially with reference to pressroom operation, methods and processes.*

Mr. Pilliard doesn't need an introduction to the International Association of Printing House Craftsmen, he having served for five years as chairman of the Educational Commission. He is also a past president of the Milwaukee Club of Printing House Craftsmen. He is printing instructor and counselor in the Graphic Arts Department of the Milwaukee Vocational School.

In introducing Mr. Pilliard to our readers generally we feel assured that his many friends throughout the country will cooperate in helping the augmented editorial staff make this magazine truly helpful in greater measure to all mechanical and production executives.

Mac Sinclair
Editor

represent the opinions and deductions of one master craftsman but in the light of Mr. Goggin's broad experience, there should be no hesitancy in accepting the volume as an authoritative treatise.

We agree with Mr. Goggin's observation that stereotyping is an Art rather than a Science. Undoubtedly this is due to the many variables encountered in the process and the inflexibility of the equipment and materials in responding to precision methods. A smart manipulator, however, can attain precise results and this, we take it, is the object of the technical information in Mr. Goggin's new manual.

A feature of the book is the author's appraisal of the reproductive possibilities of the stereotype for use in newspaper, syndicate, commercial advertising, magazine, catalog and book printing. A very complete discussion on corks is included. Forming the mat, penciling the mold, molding combination, determination of molding pressures, rate of plate cooling, trapped air problem are among the important problems discussed.

One of the highest attainments of the leaders of any craft is the will to educate its apprentices as well as to improve the technical knowledge of those who have already "arrived." For this reason, may we congratulate Mr. Goggin upon his worthy undertaking and at the same time congratulate the stereotyping craft upon having associated with them a worthy craftsman?

Mr. Goggin is an active member of Chicago Stereotypers' Union No. 4 of the I. S. & E. U. and has acted in an official capacity for that organization at various times. He is very well known throughout the country. Mr. Goggin has had no small part in helping to devise new devices for the improvement of the stereotyping process. These consist of improvements in molding and forming methods. His name has been mentioned for the position of Technical Director of Education for Apprentices of the I. S. & E. U.

The "Manual of Stereotyping" consists of four major divisions as follows:

I—History of Stereotyping.

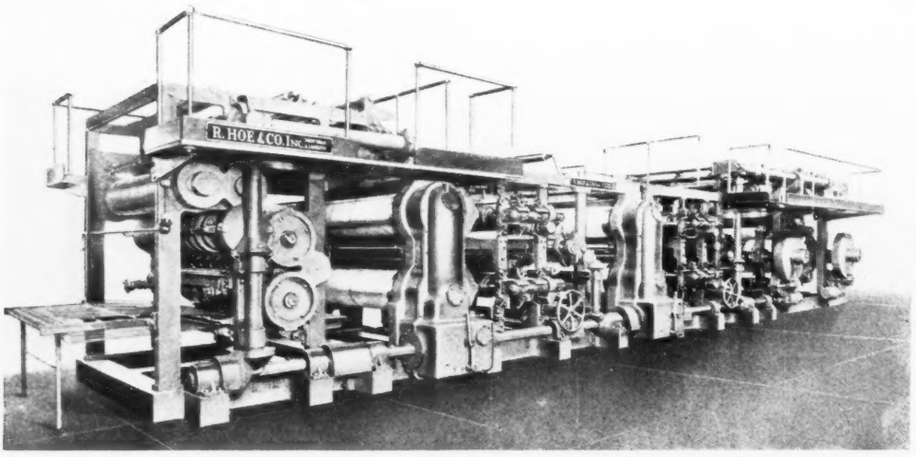
II—Equipment. Roller and Direct Pressure Molding Machines, Smaller Types of Molding Machinery, Backing Table, Forming Machine, The Metal Pot, Throat and Pump, Casting Boxes.

III—Materials. Metals, Mats, Corks.

IV—Manipulations. Preparation of Mat and Form, Molding Combinations, Penciling the Mold, Support of Spaces, Trim of Mold, Drying and Positioning, Casting Operations for Curved Plates, Trapped Air Problem, Faulty Formations of Cast, The Cold Shot, Overlay and Underlay, Flat Shell Casting, Register Methods for Color, Pressure Casting Equipment, Plating, Various Stereotype Formulas, Coating Formulas, Formula for Backing Powder, Wet Matrix.

Glossary and Encyclopedia of Stereotyping.

MANUAL OF STEREOTYPING, by *Joseph Goggin,* 256 pages, cover size, 5¼ in, by 8 in., bound in gold-stamped black DuPont Fabrikoid. Price, $5.00. Published by Joseph Goggin, 1751 North LeClaire Ave., Chicago, Ill.



View of one of the two Hoe Super-Speed Magazine Presses being installed in the plant of Street & Smith, New York, N. Y. Each of the presses prints 192 magazine pages 6¾ in. by 9¾ in. for each revolution of the printing cylinders and delivers them folded into signatures at a continuous running speed of 12,000 revolutions of the printing cylinders per hour.

Presses

Being Installed by Street & Smith Have Many New Features

By STAFF WRITER

AFTER a long and painstaking study of the particular requirements of the publications issued and in collaboration with Street & Smith management, R. Hoe & Co., Inc., have designed, built and are installing two new Hoe Super-Production Magazine Presses in the plant of Street & Smith, Inc., New York, N. Y. Incorporated in the new presses are many features, the application of which, it is said, are new to the printing of magazines although a number of them have been used successfully in newspaper printing press construction for some time.

Each of these presses is arranged to print 192 magazine pages 6¾ in. by 9¾ in. size for each revolution of the printing cylinders, and to deliver them folded into signatures at a continuous running speed of 12,000 revolutions of the printing cylinders an hour. This is equivalent of 72,000 signatures of 32 pages or 144,000 signatures of 16 pages an hour. The printing portion of each press consists of two web perfecting units entirely operable from the floor level, either of which can be silenced and the other unit used to produce 32 or 16-page signatures.

The folder is six pages wide of the straightaway type, the web running directly into the folder. Many new and novel features are included in the design and construction of the folder, including a fold control mechanism which insures an even fold at all speeds. This is a feature which has been included in telephone-book presses in the plant of the Jersey City Printing Company and the magazine presses recently installed in the plant of R. R. Donnelley & Sons, Chicago.

The web is continuously fed into the machine from two 3-arm reels equipped with high-speed pasters, automatic web tension regulators and web feeding devices, and pivtotally supported web equalizing rollers. These automatic tension regulators are controlled electrically by the action of the webs as they pass through the press. In addition, they act to rotate the replacement roll preparatory to making a paster, and as a brake to prevent run-ahead of the roll on red-button stops.

The entire press—folder, printing units and reels—is supported on a heavy cast-iron base. The side frames are made of steel as are both the plate and impression cylinders. The cylinders are equipped with extra-wide hardened steel bearers and are carried in large capacity SKF pre-loaded, self-aligning roller bearings designed to absorb both the radial and thrust loads.

Helical spur and spiral bevel gears are used extensively throughout the press and folder.

The press is equipped with oil-tight housings on the upright shaft to the printing couples which act as combined outboard bearings and gear guards. Forced feed lubrication is provided in this enclosure to lubricate all gearing and bearings within the housing, including the main drive gears, by a copious supply of lubricant which is supplied through an oil pump driven from the main drive shaft so that a constant supply of lubricant is furnished automatically while the press is in operation.

The entire ink distribution system is supported in movable carriages so that when in non-operating position, easy access to the plate cylinders is permitted from the floor level. The distribution itself is obtained by means of large ink cylinders of different sizes which are reciprocated by a non-synchronized crank-shaft movement. Form rollers and intermediates are the same size and are interchangeable.

Hoe ink pumps with control box placed outside the press frames are provided. As the action of these pumps is regulated automatically by the speed of the press, the correct flow of ink is maintained constantly, it is claimed.

All the cylinders, pipe rollers, ink rollers and in fact all rotating parts are dynamically balanced and practically all are mounted in anti-friction bearings. Both these factors reduce the power requirements and improve the operating characteristics of the press.

For the safety and convenience of the crew operating the press, all controls, such as ink, impression, tension and compensation are located outside the press, remote from moving parts. All revolving shafting, gears, etc., are enclosed and all possible precautions have been taken to insure the safety of the operators.

Heywang Passes

Robert F. Heywang, Buffalo manager of the American Type Founders Sales Corporation, succumbed to a severe stomach ailment at Millard Fillmore Hospital, Buffalo, N. Y., Wednesday, July 3. He was 52 years of age. He had served 27 years with American and was well and favorably known by a large number of business and personal friends.

Knotting and Stringing Machine

The new Krause Knotting and Stringing Machine is the latest addition to the line of Graphic Arts equipment handled by Karl Krause U. S. Corporation. The machine puts a loop of thread or cord in any kind of stock such as tags, tickets, price tickets and pamphlets, both regular and odd-shaped. The machine pierces its own hole, although it will handle material that has been either punched or eyeletted just as well.

The entire operation of stringing and knotting is automatic; the finished material is ejected and strung on a rod from which the operator may remove it quickly. An operating speed of 60 loops a minute can be maintained. Actuation of the motor-driven machine is controlled by depressing a foot treadle.

Krause Knotting and Stringing Machine which is said to be capable of finishing 60 loops per minute.

Loops of any size from 2¼ in. to 6 in. can be made. The loop size is controlled by a cam. The change from one size loop to another is made very rapidly, as it is only necessary to place a different cam in the machine.

Small Motor Starter

Combining distinctly modern appearance with a new, simple mechanism, the Cutler-Hammer Bulletin 9101 Push-button Motor Starter is adaptable for almost any fractional horsepower application.

The switch provides protection against overloads with a free-tripping thermal overload mechanism. An overload is instant indicated in the switch itself by the return of the operating button to the "off" position. One operation—pushing the "start" button—resets the overload mechanism and restarts the motor.

The capacity of the switch can be varied to provide protection for different sizes of motors by changing the heater coil. The coil is readily accessible from the front of the switch by removing the cover plate and two screws.

Cutler-Hammer Pushbutton Motor Starter

Some of the other features of the new switch, it is claimed, include solid silver-to-silver "twin break" contacts, mechanism removable for wiring, easily accessible terminals, non-rusting mechanism, stainless steel springs, and top and bottom knockouts.

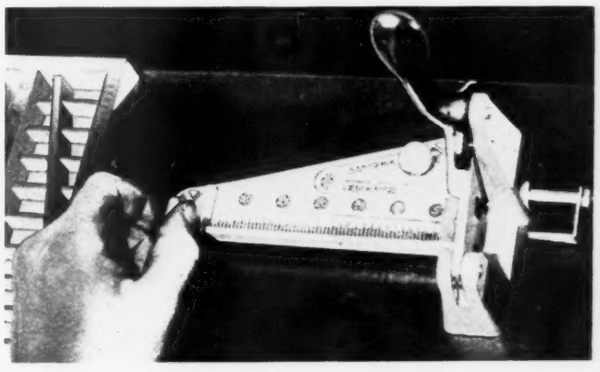
The switch can be used for surface mounting, and as "built-in" control with self contained mounting bracket for front mounting, or without the bracket for back or cavity mounting. The pushbuttons and protecting shroud are part of the basic switch mechanism and the complete mechanism is housed in its own insulating shell.

Descriptive literature and more complete information about the new Bulletin 9101 starter can be obtained from the manufacturer—Cutler-Hammer, Inc., in care of *Printing* EQUIPMENT *Engineer.*

Lead-and-Rule Cutter

A lead-and-rule cutter designed for individual use of the compositor has just been introduced by American Type Founders Sales Corporation. The cutter can be located at each active frame, according to the manufacturer, thus enabling each compositor to cut a great deal of his work without leaving his own alley. The cutter will take leads up to 40 picas, and is graduated down to nonpariels. A self-locking gage is set by an easy pull, assuring a clean and accurate cut at the desired length.

Obviously, the cutter is not intended to replace larger models for general shop use—being primarily a step-saving device for the individual compositor. Further information may be obtained by addressing American Type Founders Sales Corporation in care of *Printing* EQUIPMENT *Engineer.*



Lead-and-Rule Cutter Designed for Individual Rack Use

Ink Clouding

Caused By Static Electricity From Press and Shattering of Ink Films

By W. T. DIEFENBACH*

IT IS not necessary for me to describe the manifestations of ink misting. All of you are acquainted with the phenomena and have at times suffered from it. It is annoying when for no apparent reason, the ink leaves the press and passes about the pressroom, or further, as a mist or cloud, to become deposited later as a gray coloring on the walls, paper stock, clothing, and in fact, on everything in the room, including the pressmen. It is discomforting to realize that the air we breathe under these conditions is laden with ink. The misting of ink can be listed as an expensive curse in the pressroom. References to this phenomena have been recorded quite frequently in our technical literature. Some articles merely record observations in the pressroom, while others go into long discussions and propound theories to account for ink "flying."

All observations are valuable as an aid to an understanding of a problem and I am sure all of us thank those who contribute.

In the ANPA Mechanical Bulletin, No. 60, of Oct. 28, 1931, on page 771, there is given a list of the causes of flying ink which have been suggested by various printers and ink experts.

1. High speed of the presses.
2. Lack of humidity in the pressroom.
3. Improper ventilation in the pressroom.
4. Incorrect pressroom temperature.
5. Incorrect ink.
6. Old, hardened or imperfect rollers.
7. Old or uneven blankets.
8. Improper roller setting.
9. Too much ink on roller and printing plates.

Examining each of the above items carefully, I, personally, believe that each of the above nine items may be contributory to ink "flying," but I would go further and say that there are many more factors not listed above which might help to cause ink misting. But a consideration of these additional factors would be more logical after this paper, than at this point. One thing, however, seems apparent when we consider the great number of causes listed and that is, that in these years of experimenting, we have missed the fundamental principles of misting. The listed causes are all contributory, and undoubtedly, abet the misting but in my mind are auxiliary to one or two main causes.

As an ink chemist, I have spent much time with this problem and have sought in many ways to create ink that would not fly. I am glad to say that our results have been gratifying, but I have been forced to the conclusion from my work and experience, as others have been, that ink is only one factor. As a result I have carried on experimentation to find if possible, a more potent reason for the misting of ink.

In this study, I have considered the problem from many angles, keeping constantly in mind, the recorded observations regarding ink flying. As a result of my work, I feel that I have a distinct contribution to make regarding the problem in giving the key or potent reason for ink misting. This key cause is static electricity from the press or from the shattering of ink films.

In the phenomena of ink misting, we note that the ink does not show only in the line of the press, but travels all about the room, and smuts and dirties objects at considerable distances from the press. Centrifugal force will not cause the ink to throw sidewise. The uniform graying or darkening of stock in the room indicates the fine division of the ink. If the ink is not thrown, how can it travel about the pressroom? The answer is simple. The ink forms a cloud and is carried about the pressroom by air currents. This accounts for the uniform smutting of objects at considerable distance from the press itself and out of line of the press. If this is so, how and why does the ink form clouds?

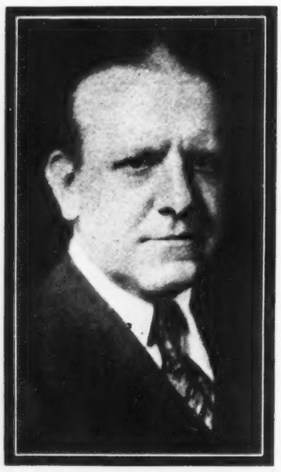
To begin with, we must understand what a cloud really is. The ordinary cloud we see in the sky is made of minute droplets of water, each of which has an electric charge on it. The sign of this charge may be either positive or negative, but each droplet in the cloud must be charged with electricity of the same sign. These tiny droplets all being charged with the same electricity, repel one another, and thus will not gather into larger drops which are heavy enough to fall. The cloud particles are very small and light and do not require much to hold them high in the air. This holding up is accomplished by rising currents of air from the warm earth below.

All of this is very interesting but, we ask, naturally, how do the small water droplets of the cloud acquire their electric charges. This has been excellently explained by the great meteorologist and physicist, Dr. George C. Simpson, in a remarkable paper published in 1909. He has shown, that the mere breaking up of a rain drop by a current of air results in an electric charge. A large drop of water, falling through air, first tends to flatten itself by the viscosity resistance and then presumably crimps itself into drops all around its horizontal circumference. Then the drop breaks up into smaller ones and these, according to Simpson's experiments, as a result of the shattering, become electrified. Thus shattering of films produces electrification.

We have to thank the great physicist, Sir Oliver Lodge, however, for his explanation of just why the small droplets, formed when the larger ones break up, acquire their charge. He says when a drop breaks up, as it breaks, the various portions to be formed are connected by a filament or film under the influence of surface tension. As the various parts of the original drop move further apart, the filament or film attenuates or thins out and, finally becoming unstable, snaps in two or more places, while the middle coalesces into very minute drops. Now cohesion, which is manifest in surface tension, is known to be a form of electrical attraction. When the snap occurs, electrons are set free and may be carried away by "air" currents. The loss of these electrons which are negative in charge, leaves the remaining drops

Continued on page 34

*Chief Chemist, J. M. Huber, Inc., New York, N. Y. Paper read before Detroit A. N. P. A. Mechanical Conference, May, 1935.



Dr. W. T. Diefenbach presents new Theory on Ink Misting.

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Lubrication

Of Printing Presses Accomplished Automatically

By Staff Writer

Automatic oil lubrication in the printing plant, it is said, insures maintenance of high-speed production and insurance against abnormal wear of printing press bearings. One lubricating system, known as the Blanchard Pulsolator, comprehends an installation whereby oil is pumped automatically under sufficient pressure from a central source of supply through copper tubing to the various bearings intended to be lubricated.

The saving in production time which was formerly required to hand-oil and flood the bearings before starting operation is considerable, it is claimed, since bearing lubrication starts when the power switch on the press is thrown. Likewise, lubrication stops when the press is stopped. The condition of bearing feast and then famine is overcome by a regular application of oil in even amounts. As a drop of oil applied to a bearing in motion is many times more effective than several drops of oil applied while the same bearing is at rest there are large possible oil savings. And, of course, the labor item is minimized. Production time, oil and labor savings may be computed easily. The savings in repairs due to faulty lubrication are less definite but probably are much greater. Automatic lubrication overcomes many costly practices prevalent in printing plants.

The Pulsolator System is featured by visible feed of oil directly at each bearing. The adjustable feeders are fitted with sight glasses through which can be seen whether the required amount of oil is being fed to the bearing.

The Blanchard Pulsolator system has undergone many tests and has been used over a seven-year period on various kinds of industrial machinery. Another feature of the system is that at one central point on the pumping unit a flush indicator lever vibrates at intervals to indicate that the entire system is operating properly.

A pumping unit similar to that shown in Fig. 1 drives from a moving member of the press and circulates fresh oil through a supply line to the adjustable sight feeders located in gangs (Fig. 2) at the bearing groupings. At each pressure pulsation a definite and adjustable feed of oil is visible through each feeder sight glass. Drip lines carry the oil to the bearings. Feeder gangs may also be mounted conveniently for observation and the drip lines run to inaccessible bearings such as those in the reciprocating mechanism on flat-bed presses. The pumping unit, having a three-quart capacity is conveniently located for filling and for observing the flush indicator lever. By holding down this lever the entire system can be flushed. While the lever is being

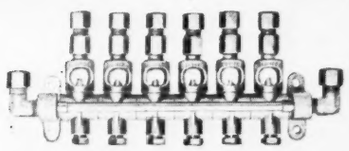
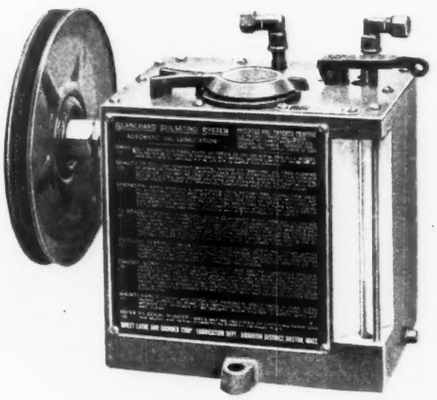


Fig. 2.—A gang of six feeders employed in the Blanchard Pulsolator Printing Press Automatic Oil Lubricating System. Each feeder is independently adjustable and each is fitted with a sight glass through which may be seen the rate of oil drip from the valve. The rate of oil feed can be regulated by the nut at the top of the feeder.

Fig. 1.—View of Blanchard Pulsolator Automatic Oil Lubricating System Pumping Unit. This pumping unit circulates oil through a supply line to the press bearings. The pumping unit is built in several styles, having oil capacities ranging from three quarts to four gallons.

Style 1 drives by V-belt, sprocket and chain or gearing from some moving part of machine; Style 2 by V-belt, sprocket and chain or gearing from a 1/8 h.p., 1750 r.p.m. motor, or high speed shaft of machine; Style 3 by direct connected 1750 r.p.m. motor with flexible drive shaft coupling, and Style 4 from a direct connected 1750 r.p.m. vertical flange-



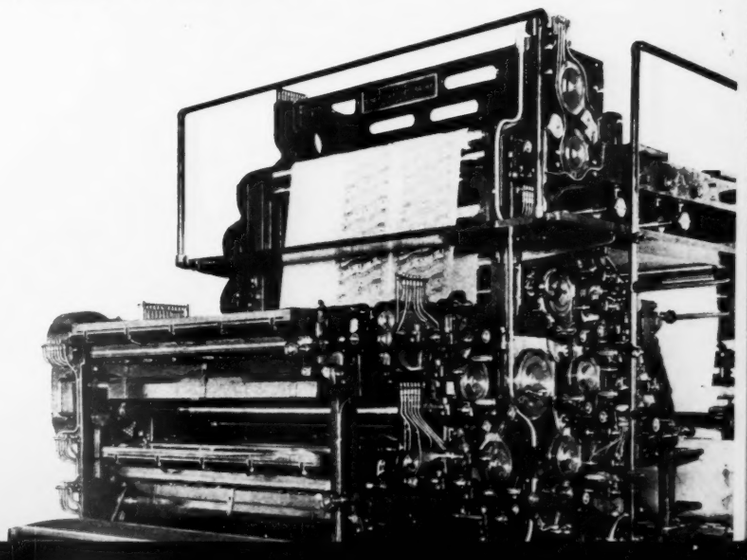
mounted ball bearing motor. Style 2 may also be used for drives from very low-speed shafts and is then assembled with its internal gearing reversed (Style 2-R) to produce 4-to-1 increase in speed of pump shaft.

In the illustration at the front, right-hand corner may be seen a gauge glass with guard rod protection to show level of oil in the pumping unit reservoir. At the front top surface will be seen the oil filler port with non-detachable cover and screen, through which the oil supply is replenished. A drain plug, shown at lower right side of the pumping unit, permits flushing and cleaning the tank. When the pumping unit is in operation oil is discharged through the pipe in the center of the reservoir, circulates through the system and the unused oil returns through the right-hand pipe.

The indicating-flushing lever at the top, right side of the reservoir lifts and vibrates at regular intervals, visually indicating the proper circulation of oil and development of pulsation pressure. Manual depression of this lever imposes a continuous heavy oil pressure on the system and causes a steady and increased discharge of oil by the feeders, thus flushing all bearings.

According to the number of lobes (which may be 1, 2, 3, 4, 6, or 12 lobes) in a valve disc in the pumping unit an oil pressure pulsation every 720, 360, 240, 180, 120 or 60 revolutions of the crankshaft respectively may be obtained, according to the requirements of the machine upon which the system is installed.

Fig. 3.—A typical installation of Pulsolator on a three-color rotary press. A Style 1 Pumping Unit similar to that in Fig. 1, drives off a moving member of the press and circulates fresh oil through a supply line to the adjustable sight feeders located in gangs in accordance with the bearing groupings. At each pressure pulsation a definite and adjustable feed of oil is visible through each feeder sight glass. Drip lines carry the oil to the bearings. Feeder gangs (as shown in Fig. 2) may also be mounted conveniently for observation and the drip lines run to inaccessible bearings as those in the reciprocating mechanism of flat-bed presses. The pumping unit, three-quart capacity, is located for filling and observing the flush indicator lever.



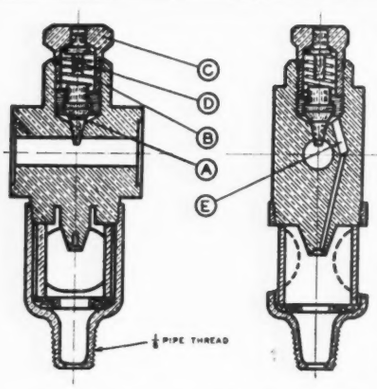


Fig. 4.—Type N adjustable feeder used with the Blanchard Pulsolator Lubricating System. Fresh oil flows continually through the central passage and during the low or circulating pressure the valve needle A is held to its seat by spring B. When the pulsation pressure occurs, it drives the needle A definitely upward until contact is made with the lower end of the stop pin D. The adjusting screw C carries the stop pin D. Therefore, the position of screw C determines the gap and adjusts the size of the valve opening. Oil entering through this opening past the valve needle flows down through the by-pass duct E to the feeder spout where it drops off in view through the sight glass and thence by gravity to the bearing. Immediately on cessation of the pulsation pressure, the spring reseats the valve needle, Type N feeders are made in gang form for mounting as shown in Fig. 2, from 2 to 32 feeders per gang, and in single forms.

Of similar design to Type N, a feeder known as Type NA is built with a concealed socket head screw which permits fully shutting off oil feed if desired, as when a part or attachment of the machine served by the lubrication system is not in use. When reopened, these NA feeders resume preset feeds.

Type S feeder is of straightway design without sight glass or other visualization of feed. It is preset at a determined delivery from ¼ drop to 2 or more drops per pulsation. Type S feeder will deliver oil against 50 or more pounds pressure per square inch, which permits locating the feeders on a header at any convenient point and running the delivery lines upward from the feeders to the bearings. Also this feeder may be screwed into the bearing oil hole and connected from the main supply line by a 3/16 in. O. D. dead end branch.

In all styles of Pulsolator feeders the valve needle in relation to its seat presents a clear annular opening at each pulsation of the system, proportionate to the required feed. This high lift, it is claimed, prevents the accumulation of impurities from the oil or foreign matter.

held down by hand, a continuous pulsation pressure is set up to cause a steady discharge of oil by the feeders in ratio to their individual adjustment. When the lever is released, normal operation is automatically resumed. This feature is particularly valuable when starting up a cold or long idle press.

Where more than one press is to be lubricated automatically, a multiple system has been developed. The multiple system operates on the same principle as the individual units but one pumping unit will lubricate a whole department or battery of printing presses. From one central source each press is automatically lubricated when its individual power is thrown on. The same adjustable sight feeders are used but a single pump and oil reservoir of 50-gallon capacity replaces the pumping units on each press. A supply line runs through the department and furnishes oil to the feeders on each press. The supply line is automatically cut in and out with the power of each individual press.

Spaceband Buffer Finger

The Linotype Parts Corporation announces a spaceband buffer finger for application to linotype machines. The finger is of conventional design except that it has fitted to it (with suitable modifications) a phosphor bronze detachable ledge or spring rail which extends from both sides of that portion of the finger upon which the spaceband wedges strike when settling in the assembling elevator. The ledge or rail, being of a springy nature, is constructed in such a way that it cushions the impace of the spaceband wedge as well as providing a frictional surface upon which the spaceband drags (thus steadying the spaceband) as it moves to the left. It is claimed this spring rail will extend the life of the upper surface of the finger. The spring rail as applied to the finger is of simple construction and may be removed by withdrawing a pin in order to substitute a new rail.

New Round-Cornering Machine

The Challenge Machinery Company has announced a new foot-operated round-cornering machine. Its maximum round-cornering capacity is up to a paper pile 1 5/16 in. thick.

One straight and three round-cornering knives are furnished. A slotting attachment enables the operator to do

View of Challenge New Round-Cornering Machine.

V-slotting, slotting and slitting in addition to round-cornering. This attachment can be set up quickly without the use of special tools. It is said that ease of operation and accuracy of adjustments are outstanding features of this new machine.

Further information may be obtained from the maker in care of *Printing* EQUIPMENT *Engineer.*

Will Open Fourth Plant

On September 1, the John S. Swift Company, Inc., pioneers in the planographing field, will open its fourth plant in Indianapolis at 305 Century Building, 36 South Pennsylvania Street. This space has been completely remodeled. It is expected to start the Indianapolis plant with a Harris S-5L Press and a Webendorfer 14x20 offset printing press, together with the necessary auxiliary equipment, as well as a cutter and some bindery equipment.

Others plants are operated in St. Louis, Chicago and New York by the John S. Swift Company.

Ludlow Caslon Bold Italic

Caslon Bold Italic is a new addition to the matrix fonts offered by the Ludlow Typograph Company. It is available in sizes from 12 to 48 point. The matrices are made on

CASLON BOLD ITALIC
New typefaces in demand

angular bodies, affording a full-kerning design. Complete specimen showings are available on request to the Ludlow Typograph Company.

For over twenty years there has been a swing to Linotype in the commercial printing field. Now that printers are once more buying new equipment, this trend gains momentum

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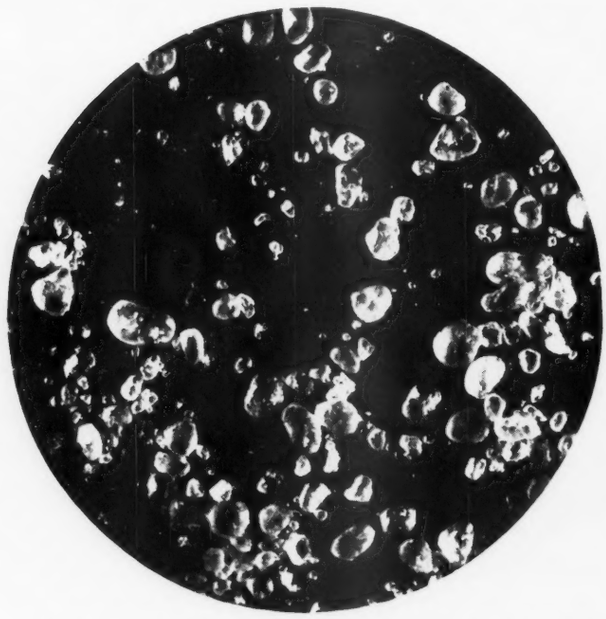


1—Lithographic Graining Sand. Photomicrograph showing undesirable smoothness in structure and lack of uniformity in particle size. The sands, apparently, are worn to smoothness by natural water action and do not possess the sharpness of structure most desirable for plate graining.

Sands

For Graining Zinc Offset Plates Subject of Microscopic Study

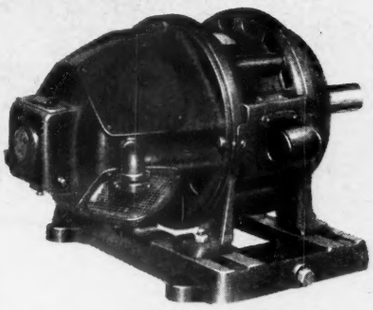
IN HIS report to Public Printer A. E. Giegengack, Technical Director M. S. Kantrowitz describes the investigational work done by the Division of Tests and Technical Control in connection with formulating specifications for lithographic graining sands.

The research study in graining sand standardization and preparation of the accompanying photomicrographs was made by Ernest W. Spencer, Assistant Technical Director.

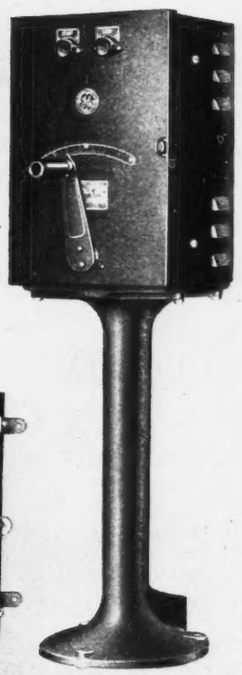
It is stated that a microscopic study was made of various types of graining produced on zinc press plates in an automatic graining machine by means of quartz sands of varying granulations. This investigation resulted in materially reducing the size of the plate grain, largely eliminating the microscopic scratches which proved detrimental to fine halftone printing. This finer and more porous grain secured better adsorption of water, permitting a marked reduction of the water-ink ratio, with consequent improvement in the quality of the final print. Excessive water on the press plate tends to deaden the blackness and tonal quality of ink. This improved quality of plate grain also effected sharper and more colorful printing through avoidance of the formation of an ink emulsion caused by excessive amounts of water on the press plate.

A scientific study has been undertaken to standardize flint and quartz sands employed for graining zinc offset plates. A preliminary investigation has revealed a great lack of uniformity in granulation and classification of particle sizes of sands. Microscopic examination has also revealed that there is a wider variety of crystalline structure than should be permitted for graining zinc plates. The granular form has been found to vary within the same sample from slivers and

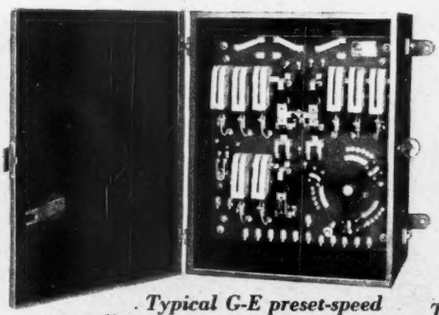
Why It Will Pay You to Use GENERAL ELECTRIC press drives and control



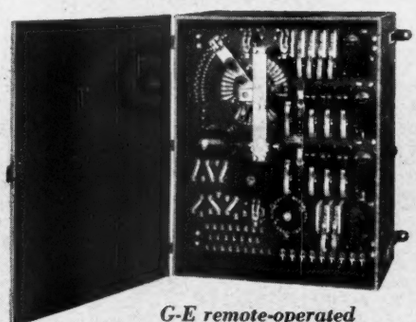
G-E Type M motor for individual drive on job presses—compact, economical to operate, dependable



Typical G-E pedestal-type preset-speed controller for job presses, folders, and wire stitchers—simple, convenient, and efficient



Typical G-E preset-speed a-c. controller—General Electric manufactures a complete line of controllers for every type of press



G-E remote-operated preset-speed controller, which permits preset-speed selection from a master switch located on the press—especially suitable for offset presses and large color presses

Master switch for mounting on press—for use with G-E remote-operated preset-speed controller shown at left

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General Electric—working in close co-operation with press manufacturers—carefully matches its electric drives and control to the characteristics of individual presses. As a result, you can be sure of getting the highest possible grade of press performance by using G-E drives and control on your presses.

G-E preset speed controllers provide easy regulation of press speeds for different classes of work. After stops or slowdowns, the press returns to a preset speed. Other features are high starting torque, and slowdown speeds of 25 to 30 per cent.

GREATER RELIABILITY

G-E motors and control—built to rigid standards of quality—give dependable, continuous service, and help to eliminate the many costly breakdowns that result from the use of obsolete or poorly constructed equipment. G-E press-drive equipment has proved its reliability in thousands of book and job plants.

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Correct design and sturdy construction mean that G-E equipment will give you extra-long service at low maintenance. G-E press drives, matched to the individual presses in your plant, utilize efficiently all the power you pay for.

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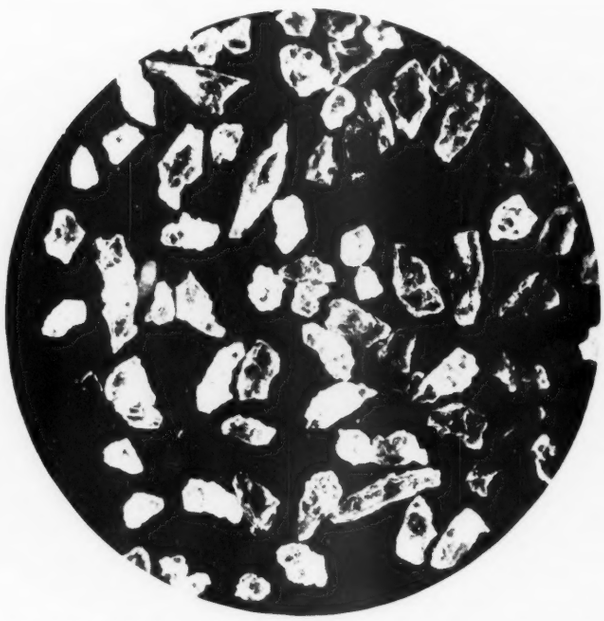
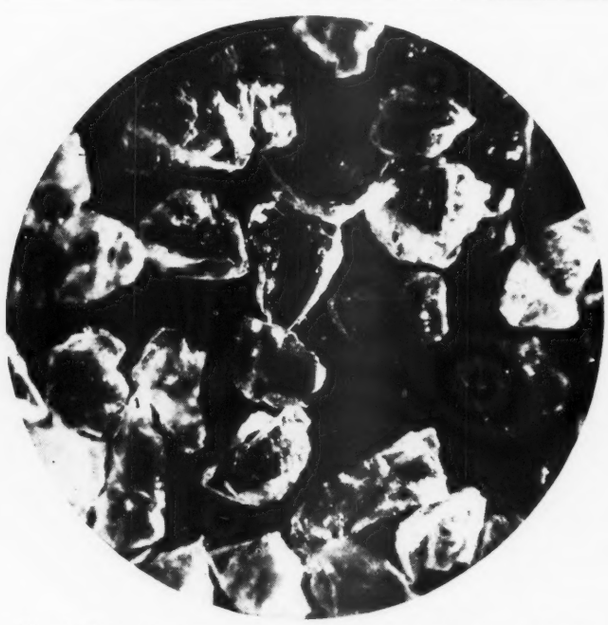


II—Lithographic Graining Sand. Photomicrograph showing too large a a proportion of flat or platy and sliver-like crystals for a desirable graining sand. The flat or platy crystals may lie flat upon the metallic surface of the plate and will tend to erase rather than produce a porous grain upon the metal.

platy crystals to those which possess no sharp cutting edges. Some sands have been found to possess even spherical and smooth surfaces.

In order to obtain uniformity of graining and accurately standardize the time required for the graining process, it is necessary to maintain as a constant the structural form and granulation of the sand used. It is with this end in view that the investigation has led to formulating the following tentative specifications for two of the grades of lithographic graining sand:

Continued on page 22



III—Lithographic Graining Sand. Photomicrograph (greatly magnified) illustrating uniformity of particle size and microscopically sharp cutting edges most desirable for producing mossy grain structure upon lithographic press plates.

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For those who demand the utmost from both *Man* and *Machine,* a unique new press is available—the NEW 20x26 Miller Simplex.

The *Machine* has a smooth, unhurried maximum of 4500 impressions per hour (tested at 5000 per hour for weeks on end). Vacuum sheet control gives perfect unvarying register through the whole speed range. Ink-mill cylindrical inkers provide superb distribution at all times. Unyielding rigidity and impression come from scientific over-center mechanism and beautiful, seasoned castings from Miller's own foundry. Long, uninterrupted service is assured by full steel bed-motion (not the usual cast-iron) and the wide use of the newest and most expensive steel alloys.

The *Man* who operates a New Simplex finds a simple, always positive, quickly adjusted feeder with new slow-down mechanism. He has instant and complete access to bed and cylinder, allowing of quick changes and fast, comfortable makeready. The delivery scarcely ever requires adjustment being of the patented slow-down type. With a flip of the wrist the inkers are wide-open and completely uncovered for quick, clean wash-up. Deep feeder and delivery piles and high pressure Automatic Oiling still further add to the ease and efficiency of the operator.

To the critical, thinking printer, we suggest the almost unlimited profit possibilities of the New Simplex, 4500 per hour, when compared to older-fashioned, slower machines whether big or little.

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SAVES—Money for publishers.
SAVES—Trouble, lost motion in stereotype rooms.
SAVES—Need of delaying editions on plate re-casts.
SAVES—Ink, press blankets, press parts, because it makes for even-surfaced plates.
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Baltimore Sun
Great Falls (Mont.) Tribune
Des Moines Register-Tribune
New York Mirror (2)
Newark (N.J.) News
Portland Oregonian
Salt Lake Tribune
Cleveland Press
Atlanta Journal
Atlanta Georgian-American
Louisville Courier-Journal
Birmingham News & Age Herald

St. Paul Dispatch-Pioneer Press
Omaha World-Herald
Seattle Star
Detroit News (2)
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New York Times
Oakland Post-Enquirer
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Chicago Daily News (2)
Chicago Herald-Examiner (4)
Milwaukee Journal (2)
Los Angeles Herald-Express
Indianapolis News
Philadelphia Record
Washington (D.C.) Times
Washington (D.C.) Star
Baltimore News
Detroit Times (2)
Kansas City Star (2)
New York American (3)

Buffalo (N.Y.) News (2)
Seattle Times
Cincinnati Times-Star
Columbus Dispatch (2)
Dayton Daily News
Toledo Blade
Charlotte (N.C.) Observer
Oregon Journal (Portland)
Memphis Commercial Appeal
Radio Guide (Chicago)
South Bend Tribune
Fort Wayne News-Sentinel
Tulsa World
Fort Worth Star-Telegram
Nashville Banner
Boston Globe
Washington (D.C.) News
Lafayette Journal-Courier
Akron Beacon-Journal

Honolulu Star-Bulletin
"La Prensa"—Buenos Aires
Compania Fabril Financiera — Buenos Aires
Toronto Star (2)
London Daily Mail (3)

Manchester Daily Mail
Brisbane (Australia) Telegraph
Manchester (Eng.) Allied Newspapers
"Critica"—Buenos Aires
"El Mundo"—Buenos Aires
Toronto Telegram

Vancouver Province
London Evening Standard
Melbourne (Australia) Herald (2)
Oslo (Norway) Aftenposten
Sydney (Australia) Herald

STAHI NEWSPAPER SUPPLY CO., INC.

PORTLAND, OREGON **LOS ANGELES, CALIF.**

AGENCIES:

Goss Printing Press Co., Chicago, Ill.
Certified Dry Mat Corporation, New York, N. Y.
Wood Flong Corporation, Hoosick Falls, N. Y.
Burgess Cellulose Company, Freeport, Ill.

FORM-O-SCORCH

ACE HIGH IN 200 NEWSPAPERS IN U.S. & CANADA

HERE'S WHY

Outside Removable Heating Units

Self-Conforming Curtain Cover

Selective Heat Control

Adjustable Forming Tension

Automatic Timer

AMERICAN PUBLISHERS SUPPLY
Box 131 West Lynn, Mass.

Sands

(Continued from page 18)

NO. 0 FLINT SAND

Quality.—Natural crystal quartz, containing not more than a trace of mineral salts, such as iron compounds, and free from foreign matter.

Crystalline structure.—Microscopically sharp cutting edges, reasonably free from platy crystals and slivers.

Granulation.—Not less than 90 per cent shall pass through a 100-mesh screen and not more than 15 per cent through a 200-mesh screen.

NO. 1 FLINT SAND

Quality.—Natural crystal quartz, containing not more than a trace of mineral salts, such as iron compounds, and free from foreign matter.

Crystalline structure.—Microscopically sharp cutting edges, reasonably free from platy crystals and slivers.

Granulation.—Not less than 100 per cent shall pass through a 40-mesh screen, not less than 85 per cent through a 60-mesh screen, not more than 25 per cent through an 80-mesh screen, and not more than 5 per cent through a 100-mesh screen.

Timken Journal Revised

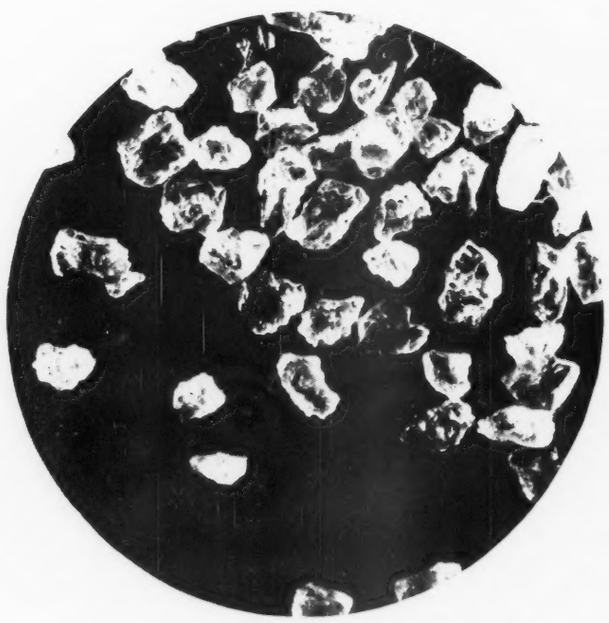
The third edition of the Timken Engineering Journal has just been issued by The Timken Roller Bearing Company, Canton, Ohio. Copies may be secured without charge by engineers, designers, libraries, and executives on request to the company or any district office. Requests should be made on company stationary, giving title or connection.

This 260-page Journal, which is a series of 8½ in. by 11 in. loose leaves, bound in a heavy three-ring binder with stiff covers, has a 22-section marginal tab index for ready reference as well as the customary detail index sheet.

The first four sections cover the design of Timken Bearings with illustrations, rating discussion, curves and factors which apply for speed, life expectancy, engine torque, use or application, and 15 examples showing how loads are calculated and bearings selected for various applications.

Following the tabular sections of the Journal (50 pages), are the detailed dimension sheet sections (108 pages), preceded by a special index. Full and half-size illustrations suitable for tracing are given for all single-row bearings.

The last two sections of the Journal discuss cup and cone fitting practice for Timken Bearings, giving definite recommendations, and cover also the subject of lubrication.



IV—Lithographic Graining Sand. Photomicrograph showing three dimensional grains having many sharp cutting edges which function efficiently under the impact of the graining marbles to produce a very porous and mossy plate grain.

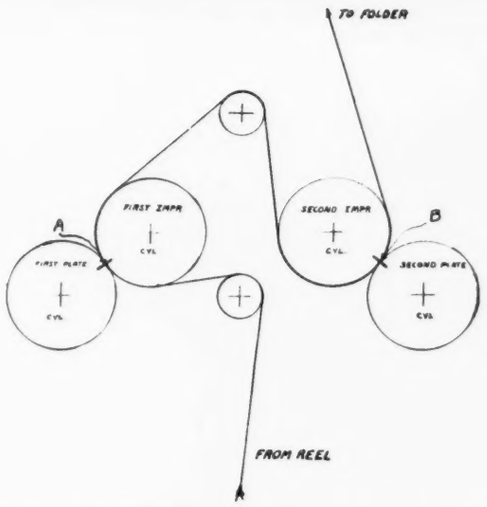


Fig. 1.—Diagram of web through newspaper printing press unit to show how first impression printing is smudged or offset at the time the web passes through the second impression cylinder.

Problem

Of Poor Appearance of First Impression Newspaper Printing

By WM. G. DODGE *and* WM. BAUMRUCKER, JR.*

A TROUBLE inevitably encountered by newspaper publishers who print on web or rotary presses is that of a smudged and blurred appearance of the pages on that side of the sheet which is printed first, known as the first impression pages (Figs. 2 and 3). An advertiser who has been shown a fine proof of a cut made from beautiful copy, and then is unlucky enough to have his advertisement fall on a first impression page, is sure to complain. Likewise, picture editors rise in protest over the "mutilation" of their efforts. Costly refunds for poor reproduction are made, and the appearance of the paper suffers in general, but the pressman's hands are tied. He is helpless and can only give one answer: he is sorry, but "it's just one of those first impression pages." Below are given the authors' thoughts and observations on the first impression problem. No solution is offered because we know of none, but it is thought that a presentation of the various known factors concerning the trouble would be of value.

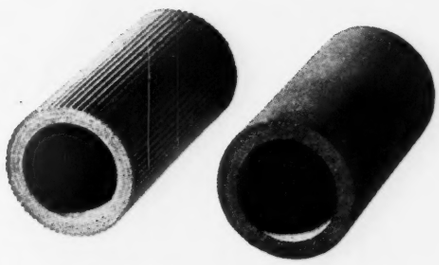
A number of theories as to the cause of this type of defective printing have been advanced. However, some of them, in view of recent investigations, appear to be ill-founded and open to question. Inasmuch as in all cases examined, the blurred areas next to the true impression could be cleaned by scraping away the surface fibres of the paper, the opinion that the effect is due to ink striking through from the second impression page is not justified. The blur must have been applied from the same side of the sheet as the true first impression printing. The theory has also been advanced that this slurred appearance is due to a slippage of the paper between the plate and the blanket. The slur does look as if it were caused by slippage, but a consideration of the enormous pressure exerted by the plate and blanket against the

*New York *Daily News*. Presented by title at the First Annual Conference of the Graphic Arts Research Bureau of the A. S. M. E., at Cincinnati, O., June 20 and 21, 1935.

BOOTH'S Green Keyboard

RUBBER ROLLS

Colored Green For Your Protection



Booth Rolls for line-composing machine keyboards are supplied in either corrugated or crepe finish treads. The new crepe finish rolls compel a more positive action of the keyboard cam than the former smooth surface. Booth Rolls are compounded from non-blooming stock and contain as much pure gum rubber as possible. Each roll is created under consistently controlled manufacturing methods.

Corrugated or Crepe Finish — as you choose.

$1.30 per pair; $7.00 per dozen; 55 cents each in lots of 100.

The worries caused by the hazard of lost, misplaced, inverted or transposed cuts can be avoided easily by using

Booth's Printers' Zink Cut Cement

Once mounted properly on bases, there will be no need for wondering whether cuts will print as ordered. Fastens cuts of all kinds to wood or metal base. A *small* quantity will hold a cut to its base with the strength of a tiger's paw provided the cut is pressed firmly to its base with a rotating motion at the time of mounting.

50c per large tube; $5.00 per dozen tubes; $4.00 per dozen tubes in gross lots.

Another BOOTH Product

Engravers' Concentrated Rubber Cement — $7.50 per 5-gallon can. When mixed with 30 gallons of Benzol, this cement will produce 35 gallons of high grade solution.

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LUDLOW Italics Stand Up Under the Mat Roller

After ten years of use and many more years of observation, I find the Ludlow indispensable and most economical. Can't possibly see how an office having from 20 to 40 full pages to deliver in a night can get along without it.

The unlimited supply of new type for every edition and the italics that do not break off under pressure of the mat roller are just two of the many Ludlow features that appeal to me.

W. R. BOYER
Composing Room Superintendent
THE PHILADELPHIA INQUIRER

LUDLOW TYPOGRAPH CO.
2032 Clybourn Avenue · Chicago, Illinois

Set in members of the Ludlow Nicolas Jenson family

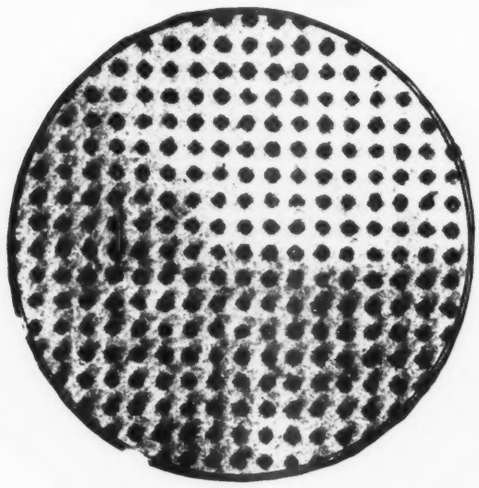


Fig. 2.—Enlarged photograph of halftone taken from newspaper on first impression side of the sheet to show duplication of dots.

paper precludes any chance of this occurring. The paper would most certainly break before it slipped.

One thing concerning this trouble has been proved definitely. If a web is run through a press with no plates on the second impression cylinder, *i. e.*, the first impression is the only impression and the second side of the web is left clean, then that first impression will be as cleanly printed as any second impression ever was. Furthermore, if when the sheet is run through the second impression side on which are plates *without ink upon them*, the first impression printing is as dirty as it is when the second impression is actually printed. The source of difficulty is unquestionably at the point of second printing.

In every instance the trouble appeared to be due to an offset of ink onto the areas that are squeezed against the second blanket cylinder by the second impression plate. This ink which is offset is the deposit of fresh ink left on the blanket by the first printed side of the sheet which has passed over it. Following the course of the web through the press unit in Fig. 1 it is shown how this is possible. The web is first printed at "A," the first impression side of the press unit, and is then run through "B," where the second impression printing is done and the wet ink from the printing at "A" is brought into contact with, and leaves its imprint on the second impression blanket. An examination of Figs. 2 and 3 shows there to be an apparent duplication of type matter as well as of half-tone dots, and it may be further noticed that this duplication is entirely absent in some areas. These clean areas always correspond to the unprinted portions of the reverse side of the sheet; whereas, the dirtied printing always has an area of second impression printing behind it. It is this that causes the illusion that the trouble is due to "strike through." The pressure exerted by the second impression plate is necessary to this blurring on the first impression side of the sheet.

In order that there be an objectionably visible offset from the impression blanket to the paper, the "offset impression" must not coincide with the true first impression printing. As will be shown below, this must be due to a shifting of the sheet, while running, and a change in the supposedly fixed web distance, A-B in Fig. 1.

As the first and second impression plate cylinders are of equal circumference, and the blanket cylinders have the same effective circumference, and all rotate at the same speed, theoretically the web should feed smoothly between the impressions and should at all times have the same tension on it. However, if for any reason, the distance along the web

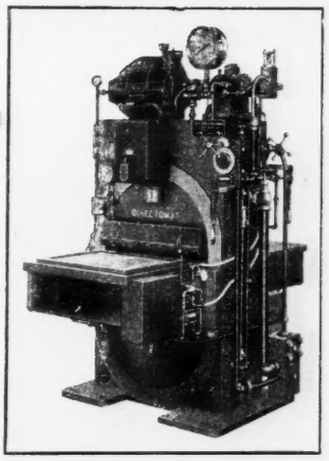
from A to B is altered, the sheet momentarily becomes out of step with the cylinders, and the ink offsetting from the blanket is superimposed not upon the character with which it should come in contact, but hits the paper at some point before or behind it. This explanation has been corroborated by the fact that a series of papers taken from a press show offset successively trailing and leading the type matter to varying degrees. Papers are also seen with this offset on top of, or underneath the character, showing that the web shuttles sideways (tabloid size sheet). In some infrequent cases when the blanket is very dirty and especially when its composition imparts excessive softness to it, a halo of ink completely enclosing the dot or type has been noticed.

In view of these facts, there appear to be two ways in which the first impression side might be made to appear as well printed as the second:

First—the web distance from one side of the unit to the other (A-B) in Fig. 1, should be constant, and unvarying. Furthermore, there should be no sideways shuttle of the sheet. This might be brought about by more rigid control of sheet tension. Experimentation involving different combinations of floating rollers and other automatic tension devices has revealed a decided influence on first impression offset, though no regulation thus far developed has proved of enough benefit to be considerad a solution of the problem.

Second—If there were no offset of ink either from the paper to the impression blanket, or from the blanket to the paper the trouble would be corrected. This might be brought about either by developing an ink with quick setting properties, or by finding a blanketing material that is ink repellent. In line with this latter thought, it could be said that the sandpaper type top sheet would materially decrease the tendency of the ink to offset onto the blanket; however, its inelastic nature would preclude other than long runs with the same page makeup, a condition unknown in newspaper plants. A study of blanket-ink relations carried out by one of the large ink manufacturers showed that certain combinations minimize the affinity of the blanket for the ink and thus in turn cut down the potential flow of ink back into the paper. If a practical device could be worked out to continuously wipe the blanket clean of all ink, the trouble could be done away with, but no satisfactory device of this nature has yet, to the writers' knowledge, been developed.

Fig. 3.—Enlarged photograph of type matter taken from first impression side of newspaper page to show offset caused when the second impression was made on the opposite side of the sheet. The "clean" areas in Figs. 2 and 3 correspond to the unprinted portions of the reverse or second impression side of the sheet.



The DIRECTOMAT Hydraulic Matrix Press

is now successfully in operation in thirteen American cities and six more machines are on order. Real achievements never need tall talk. Progress can well tell its own story. So can efficiency. So can price.

Facts prevail. Claims cannot always be proved. Promises are not always kept. But facts . . . you can put your finger on facts like these, established by the DIRECTOMAT installed in the Milwaukee Journal plant . . . Sharper and more uniform type matter, more detail and contrast in the halftones, denser solids, and considerable saving of time per mat moulded, as compared with the roller method. Stretch of mat completely eliminated. Whereas under the roller method every kern of italic type is apt to be broken and 8-point Monotype is invariably pushed off its feet, the DIRECTOMAT enables liberal use of these delicate type faces without fear of crushing them in moulding.

A large Metropolitan paper has just installed a DIRECTOMAT and is highly pleased with the efficiency, speed, simplicity and the results obtained with this engineering masterpiece.

Write for full particulars.

Lake Erie Stereotype Equipment Company

Division of Lake Erie Engineering Corporation, Buffalo, N. Y.

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Flexideal Dry Mat Company - 21 West Street, New York
B. O. Henning Sales Agency - 608 S. Dearborn St., Chicago
Wood Flong Corporation - - Hoosick Falls, New York
Stahi Newspaper Supply Company, Inc., - - Los Angeles
American Publishers Supply - - - West Lynn, Mass.
Toronto Type Foundry Company, Ltd. - - Toronto, Canada

Letters to the Editor

Chicago, Ill., July 5, 1935.

Editor,
Printing EQUIPMENT *Engineer,*
Cleveland, Ohio.

Dear Sir: The article in your June issue on why two revolution presses show variation of register with variation in speed, makes no mention of a circumstance which has always seemed to me to be the obvious cause.

I refer to the fact that a sheet of paper is stationary when it is gripped by the moving cylinder. When the press is operated slowly the gripper will grab the sheet at a certain point. When the press is operated rapidly it seems inevitable that the grippers would grab the sheet at a little later point. And even if there is no lag in the mechanical movements there is certain to be some sheet slippage under the grippers at the moment of contact—less at slow speed, more at high speed. A demonstration of the truth could be accomplished, probably, but it would be difficult and not worth while since the condition seems to be inherent in all cylinder presses.

Yours very truly,

H. W. HACKER.

MR. CARTY'S REPLY

It is true that a sheet of paper is stationary when it is gripped by the moving cylinder, that is, it is stationary if it has been fed to the guides in time to be stationary before the gripper close upon it. It is true there is a variation in register at variable speeds, but with this difference, that this variation does not exist with all presses—and there's the problem.

Pressmen have been told this variation must be expected and they acquiesce, reluctantly. As to sheet slippage under the grippers at the moment of contact, that is a disputed statement. The slippage, if any, is not at the moment of contact of the grippers unless the sheet has been crowded against the guides and then flattens out when the guides lift, but occurs at the beginning of the impression and may continue until the sheet has been fully printed. Sheets have been known to "slip" to the extent of dropping upon the form before the delivery parts of the press could handle it.

The slipping of the sheet is due entirely to improperly packed impression cylinders which results in a drag or slipping, if it is desired to so state it. To accept the statement that the condition referred to seems to be inherent in all cylinder presses, and to let it rest at that, does not help the pressman very much. If the cylinder is fairly tight in its bearings so that there is a constant pull upon the driving gears (with no backlash) the variation in register at variable speeds is likely to disappear entirely.

ALTON B. CARTY.

Rubber Plates Booklet

As a means of answering the many questions received from printers and plate makers concerning rubber printing plates, The B. F. Goodrich Company, has issued a sixteen-page booklet titled, "The Story of the Elastotype." Such subjects as when and how to use rubber plates, their advantages, limitations and care are discussed in detail. Another feature of interest is that the booklet has been reproduced entirely by rubber plates. Illustrations and color are used to show what rubber-plate printing looks like on different grades of paper. A copy may be obtained by addressing The Mechanical Goods Division of the above company, or in care of *Printing* EQUIPMENT *Engineer.*

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E. H. Walker Supply Co., Printcraft Bldg., Washington, D. C.
Selby Mohr, 883 Mission St., San Francisco, Cal.
Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909-2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co., 1091 So. Main St., Akron, Ohio
G. C. Dom Supply Co., 125 East Pearl St., Cincinnati, Ohio

Technical Note From Pony Pete

June 20, 1935.

Dear Tommy:

I have been informed that a mechanical superintendent out your way was telling the boys at a convention that the stereotyper in his plant pulled a lot of impression off his mat roller and is getting improved printing. Now, Tommy, have you ever stopped to think just how vital the right impression on the mat roller is to the appearance of the paper? I see you know just what the right amount is because it is reflected in your print but as you look through the exchanges, how many of them hit it? You know the fellow up the river who is always trying this and that and always getting just exactly no place because he can't see that all his trouble is in the need for just a little more impression on his roller and, of course, a little more on one section of his press would help, too. But, Tommy, if someone asked you just how to determine the right amount of impression what would you tell him? You would probably answer that good roller men are born and not made and I guess any foreman would agree with you, but I have given this matter a lot of thought and have been asked the question so many times that I devised the following method: After the mat is rolled and scorched, measure the edge where it has been compressed on the chase with a micrometer and if you have 0.004 in. less than the original thickness you will not be far off. Of course, books could be written about impression, but with the average molding combination and with four or five different makes of mats, the above method will hold true. If I started in on molding combinations I would have to write a book, so I'll be seeing you.

Cordially yours,

Pony Pete.

Egmont Series

Egmont, a new type face, is being introduced jointly by the Continental Typefounders Association and the Intertype Corporation. Reproduced below are two specimen lines of 24-pt. Egmont Light, roman and italic. The designer is S. H. deRoos.

EGMONT, distinguished new

AND ITALIC for all good work

The new face, it is stated by the Continental Typefounders Association, is available in sizes from 8-pt. through to 60-pt. in the roman and 8-pt. through to 36-pt. in the italic. In addition, the medium weight, both roman and italic, and a bold weight are available. Egmont is designed for fine book and publicity work.

BURGESS CHROME MATS

How to be Happy in Stereotype Rooms

Burgess Chrome Mats reduce stereotypers' worries and headaches.

If you want to make your life happier . . . if you want to cut costs . . . if you want a better-looking paper . . .

. . . ask to have Burgess Chrome Mats demonstrated before your own eyes in your own stereotype room. There's no obligation connected with this offer.

BURGESS CHROME MATS

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CHROME MATS
A Laboratory Product
A 229

Pacific Coast Representative, RALPH LEBER,
426 Polson Bldg., Seattle, Washington

BURGESS CHROME MATS

Dieckmann With Miller

H. E. Dieckmann, well known in New York territory, has become associated with the New York office of Miller Printing Machinery Co. After serving overseas in the A. E. F. he joined the Chicago sales staff of the Seybold Machine

Company and spent eight years covering seventeen of the Midwestern and Central states. After a year or so with T. W. & C. B. Sheridan Co., Mr. Dieckmann transferred to Brandtjen & Kluge, with which company he was associated for the past nine years in the New York office.

Conner Joins Flint

Berry Conner, it has been announced, is a recent addition to the sales organization of the Howard Flint Ink Company at 2001 Calumet Ave., Chicago factory.

SKF Data Sheets

SKF Industries, Inc., Philadelphia, has covered a wide scope of bearing information in its 76-page edition of Engineering Data Sheets just off the press.

Subjects include index of bearing types; selection, mountings and lubrication of ball and roller bearings; self-aligning ball bearings; single row ball bearings; double row ball bearings; spherical roller bearings; cylindrical roller bearings; ball thrust bearings; conversion tables; transmission appliances; district offices; and tables showing principal dimension, shaft fits and tolerances, housing fits and tolerances, removable sleeves, shaft locknuts and lockwashers, corner radii and shaft fillets.

Intertype President in Europe

Neal Dow Becker, president Intertype Corporation, sailed for Europe to visit among Intertype's subsidiary companies and sales representatives. During July Mr. Becker visited with Intertype, Limited, at Slough, England. In August he will spend some time in the company's offices and manufacturing plant in Berlin.

G. P. O. Buys Intertypes

The world's largest printing establishment, the United States Government Printing Office, recently installed six Model F Intertype Mixers. The Model F is a two-magazine machine equipped for quick lever changes from one type to another. All six machines were equipped with the Intertype Automatic Centering and Quadding Device.

SAVE!

THE COST OF SILVER IS HIGH

Use Contrasto Strip Film for negatives in your engraving department and you eliminate wet plate methods of making negatives. Contrasto negative mediums bring new quality, greater speed, and at the same time a tremendous saving. It gives uniform emulsion of extreme contrast—clear, transparent whites—density that ranges from extreme black to any degree of tone. This is real quality. The ease with which negatives can now be stripped will open your eyes.

The saving in time and materials of Contrasto over the old wet plate process is better than 65%. The cost of silver solutions is high. Why pay profits out for silver?

We want to prove to you that you can save many hundreds of dollars each year and produce good results with Contrasto Strip Films. Will you let us?

Write today for complete information

POLYGRAPHIC COMPANY OF AMERICA, 310 East 45th St., New York, N. Y.

New-and very Stunning

Gillies Gothic Light—it's the newest Bauer typeface! Very chaste, and chic. In fact, it's handsome as the devil—and useable in a thousand ways, alone or in combination with other types new and old. The specimen now in preparation is worth writing for.

Gillies Gothic

Gillies Gothic is cut in *Light* and *Bold* from 18 to 84 point

THE BAUER TYPE FOUNDRY · INC · 235 EAST FORTY-FIFTH STREET · NEW YORK

FLEX DRY MATS

For better dry mat performance, and particularly for better reproduction of halftones and heavy solids, use FLEX dry mats. FLEX dry mats mold well at low pressures, scorch quickly, and make good plates at moderate casting temperatures. Try FLEX dry mats: you will be delighted with the improvement in your presswork.

FLEXIDEAL DRY MAT COMPANY

21 West Street New York

New Information On Static Electricity Points Way To Stop Printing Wastes

Old Man Statie can waste a lot of time and money around your printing plant. On newspaper presses, he breaks webs where there are long leads between impressions. On Roto presses, he sets flash fires to inflammable ink fumes. And everywhere he goes he offsets sheets, ruins register at guides, and plasters sheets to delivery mechanisms.

The one scientific way to fight electricity is *with* electricity. That is why the Chapman Electric Neutralizer is the one positive device which forever frees a printing plant of static troubles.

Safe, Sure, Low-Cost

It is the cheapest method, too. It requires only a small investment in equipment — lasts for a lifetime — and runs at a cost seldom much more than an ordinary light bulb. It is safe, being listed among the Inspected Electrical Appliances on the National Board of Fire Underwriters. Write today for a copy of the bulletin illustrated.

Other Facts on Printing Problems. Send us your name and address to receive information we issue from time to time on our various new products. For example: our new five-color arc-type wrapper press, our new label press, our one and two-sheet rotaries, a new slitter soon to be announced.

U.P.M.-KIDDER PRESS COMPANY *Incorporated*

PRINTING MACHINERY

DOVER, N.H. NEW YORK CHICAGO TORONTO

One and Two-Sheet Rotaries . . . All Size Adjustables . . . Automatic Bed and Platen Presses . . . Golden Arrow Straight-Line Bronzer . . . Multi-Color Web Presses . . . Slitters and Rewinders . . . Chapman Electric Neutralizer . . . Special Printing Machinery of All Kinds. 950

Patents

Relative to Various Kinds of Printing Presses Granted

RECENT DATE

Composing Machines:

2,003,693. TYPOGRAPHICAL SLUG. Walter M. Morey, Wilmette, Ill., assignor, by mesne assignments, to Teletypesetter Corporation, Chicago, Ill., a corporation of Delaware. Application June 20, 1931. Serial No. 545,774. 4 Claims. (Cl. 101 — 374.)

3. In the typographical slug-casting art, a slug adapted to be associated with a pre-set slug, the first named slug comprising a portion integral thereto, the conjunction of the portion and the first named slug being of reduced dimension whereby when the first named slug is assembled in printing relation with the pre-set slug the portion is severed by the cooperation of the adjacent edge of the pre-set slug with the portion.

Feeding, Delivery, Folding:

2,001,295. SHEET DELIVERY MECHANISM FOR PRINTING PRESSES. Howard M. Barber, Paweatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application July 31, 1934. Serial No. 737,688. 4 Claims. (Cl. 271 — 79.)

1. In a sheet feed rotary printing press, an impression cylinder and a flat sheet delivery therefor, comprising a sheet transfer endless chain carrier, a plurality of sheet delivery endless chain carriers coacting to take alternate sheets from the sheet transfer endless carrier at different points thereon, and means for driving the sheet transfer endlesss chaincarrier and the sheet, delivery endless chain carriers all at the same surface speed as the impression cylinder.

2,001,296. SHEET DELIVERY MECHANISM FOR PRINTING PRESSES. Howard M. Barber, Paweatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application January 5, 1935. Serial No. 515. 25 Claims. (Cl. 271 — 76.)

1. In a sheet-feed rotary printing press, an impression cylinder and a sheet transfer endless chain carrier, both traveling at substantially the same surface speed, and a plurality of sheet delivery endless chain carriers traveling at a lesser surface speed and arranged to take alternate sheets from the sheet transfer endless chain carrier at the lesser surface speed.

2,001,520. PRINTING MACHINE. Johan A. Carlson, Ashland, Mass., assignor to Lucy F. Pratt, Ashland, Mass. Application December 1, 1932. Serial No. 645,210. 4 Claims. (Cl. 271 — 2.5.)

1. In a printing machine, in combination, a bed plate over which is fed a strip or web strung with strings and provided with notches, a feed mechanism having means movable into and out of the notches for effecting intermittent feed of the strip or web, and a cover plate cooperating with the bed plate to form a guideway for the strip or web, the cover plate provided with an opening with which a notch in the strip or web is capable of being registered to position the notches in the strip or web in proper position to be entered by the feeding means.

2,002,011. WEB ROLL CONTROLLING MECHANISM. Albert J. Horton, White Plains, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, permanent trustee. Application October 3, 1930. Serial No. 486,090. 11 Claims. (Cl. 242 — 75.)

2. In a web roll controlling device for a printing machine, a support arranged to move rolls successively into running position, and endless belt supported to bear against the periphery of a web roll in running position and arranged to be driven by the roll, a controlling mechanism acting in response to variation in the pull of the running web, and a friction brake mechanically connected to the controlling mechanism and adapted to impede the motion of the belt to control the tension of the web and quickly check the rotation of the running roll when the machine is decelerated rapidly.

19,591. FOLDING MECHANISM. Curtis S. Crafts and Charles Alonzo Harless, Oak Park, Ill., assignors to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Original No. 1,895,124, dated January 24, 1933. Serial No. 580,930, December 14, 1931. Application for reissue September 9, 1933. Serial No. 688,800. 11 Claims. (Cl. 101 — 409).

9. A gripping device including in combination a shaft, a plurality of spaced-apart laminated, leaf spring sheet-holding members mounted on the shaft, means for imposing initial spring tension independently on the various sheet holding members, the shaft and sheet holding members being movable between open and closed position.

2,002,850. PAPER FEEDING MACHINE. Frank L. Cross, Port Washington, N. Y., assignor to Cross Paper Feeder Company, Boston, Mass., a corporation of Massachusetts. Application June 3, 1933. Serial No. 674,177. Renewed November 22, 1934. 6 Claims. (Cl. 271 — 38.)

1. The combination with a feed table and means for feeding a fanned-out bank of sheets upon the feed table, of sheet-actuated tripping devices adjacent to the end of the feed table toward which the bank of sheets is fed, sheet-separating combing devices acting above the feed table adjacent to the tripping devices to impart a final separating movement to sheets in the same direction as the bank feed, means under the control of the tripping devices for arresting the action of the combing devices, tail-drags engaging the fanned-out bank of sheets approximately sheet lengths from the tripping devices, feed-off devices arranged to engage and raise the tail end of the top sheet adjacent to the tail-drags, and delivery mechanism arranged to take the raised tail end of the top sheet and move the same rearwardly from the feed table away from the combing and tripping devices.

2,003,364. FEEDING MECHANISM FOR PRINTING PRESSES. Hans Irmscher, New York, N. Y., assignor to Millie Patent Holding Co. Inc., New York, N. Y., a corporation of New York. Original application September 23, 1931. Serial No. 564,615. Divided and this application June 28, 1932. Serial No. 619,685. 8 Claims. (Cl. 164 — 88.)

7. A tape feeding mechanism comprising a frame, slidable means on the frame, means to reciprocate the slidable means, means on the slidable means to engage a tape frictionally, perforating means on the frame, means actuated by the reciprocating means to actuate the perforating means to perforate tape fed from the friction means, a table, a dog on the table to engage successive perforations made by the perforating means in the tape, the dog normally being urged against the tape by gravity, and means actuated by the reciprocating means to reciprocate the table.

2,003,569. TENSION CONTROLLING MEANS. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application December 8, 1931. Serial No. 579,760. Renewed March 12, 1934. 4 Claims. (Cl. 242 — 75.)

1. In a device for controlling the operation of a tension belt, the combination of a pulley around which the belt passes, a brake shoe adapted to engaged the belt passing around the pulley, and means for holding the brake shoe against the belt on the pulley.

2,003,698. METHOD OF AND APPARATUS FOR SEPARATING SHEETS FROM STACKS THEREOF. Joseph P. Remington, Philadelphia, Pa., assignor to Stokes and Smith Company, Philadelphia, Pa., a corporation of Pennsylvania. Application February 20, 1932. Serial No. 594,194. 24 Claims. (Cl. 271 — 25.)

1. A method of separating one sheet at a time from a stack of limp sheets, which comprises reducing the adhesion between the top sheet and its neighboring sheet beginning adjacent an end of the top sheet and progressing in zones toward the other end of the top sheet, and adjacent the other end picking up and removing the top sheet from the stack, without substantial disturbance of the neighboring sheet.

2,004,493. REEL SUPPORTING MECHANISM FOR USE IN PRINTING MACHINES. Cecil George Quick, Donald Arthur Ball, and Thomas Richard Bennett, London, England, assignors to Irving Trust Company, permanent trustee for R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application February 25, 1933. Serial No. 658,542. In Great Britain February 29, 1932. 15 Claims. (Cl. 242 — 58.)

4. A web roll supporting mechanism for use with a printing machine, comprising a pair of arms angularly movable about a common axis, operating means to rock the arms simultaneously, and a connection whereby one of the arms may be rocked independently to permit the endwise insertion of a web roll to a mounting position.

2,003,568. FOLDER. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Original application April 28, 1927. Serial No. 187,375. Divided and this application July 15, 1931. Serial No. 550,887. 2 Claims. (Cl. 270 — 18.)

1. In a printing press, the combination with a pair of web perfecting couples, of a roll over which the web therefrom is directed, a slitter adapted to slit the web in cooperation with the roll, means for turning one of the half-width webs into a position in vertical alignment with the other, compensating rolls, each located in a loop in one of the webs and adjustable transversely to its axis to register the web, means for operating each of the compensating rolls from a point near the roll to move it along, and means in stationary position near the folder for moving each of the compensating rolls.

Miscellaneous:

2,001,890. TYPE CYLINDER PRINTING DEVICE. Edward G. Rix, Chicago, Ill., assignor to The International Check Endorser Co., Chicago, Ill., a corporation of Illinois. Application June 3, 1932. Serial No. 615,164. 6 Claims. (Cl. 101 — 350.)

1. A mechanism for supplying ink to a type cylinder rotatable about a horizontal axis comprising an ink reservoir, an ink supply roller rotatable about an axis parallel to the type cylinder and engaging the type cylinder, means for driving the roller at the same surface speed as the type cylinder, a rotatable scraper engaging the roller for spreading the ink on the roller, and means for rotating the scraper in the opposite direction to that of the roller at less average surface speed than the surface speed of the roller whereby the ink will be spread and foreign material such as lint and grit will be released from the scraper as the scraper rotates.

2,002,293. METHOD OF MAKING PROOFS. Rose Lowensohn, New York, N. Y. Application March 6, 1934. Serial No. 714,218. 8 Claims. (Cl. 101 — 211.)

3. The method of making proofs, including providing a main type set up, and an auxiliary type set up for changes or insertions in the main type set up, inking the auxiliary type set up with a tacky relatively slow drying ink, arranging the different type set ups to produce a final single type set up, inking all the type of the final type set up with a less tacky relatively quick drying ink, the inks being coordinated so that indicia printed by the type of the original auxiliary set up shall have a different color than that of the remaining incidia, and finally printing with the type of the final type set up to produce the indicia, as set forth.

2,002,537. PRINTING INK. Eugene J. Kelly, Kalamazoo, Mich. No Drawing. Application February 14, 1934. Serial No. 711,229. 8 Claims. (Cl. 134 — 35.)

1. A printing ink which is quick drying at a temperature range between 300 and 400 degrees F., consisting by weight of from 5 to 65 per cent of dry pigment, 2 to 10 per cent of a high melting point wax, of the class of organic waxes consisting of carnauba, japan, bayberry and Montan waxes, 3 to 18 per cent of low viscosity nitro-cellulose, 30 to 70 per cent of volatile solvent thinner, and 10 to 40 per cent of plasticizer.

2,002,895. ARTICLE OF PRINTER'S FURNITURE. Elmer L. Kokanour, Fort Lauderdale, Fla. Application March 22, 1934. Serial No. 716,775. 4 Claims. (Cl. 164 — 98.)

3. An article of manufacture comprising a punch device adapted to be applied to the platen of a job printing press, the device having a heel for clamping engagement between the platen and bail of the press and having a toe adapted to enter a slit in the tympan drawsheet for positioning the device on the platen.

2,003,597. PRINTER'S QUOIN. James Edgar Lee, Olaf T. Gylleck, and Freeman Barney, Grand Haven, Mich., assignors to The Challenge Machinery Company, Grand Haven, Mich., a corporation of Michigan. Application August 2, 1934. Serial No. 738,094. 7 Claims. (Cl. 254 — 42.)

1. In combination, a channel shaped member, an outer wedge member slidable between the flanges thereof, an inner wedge member located between the web of the channel-shaped member and the outer wedge member, means for moving the wedge members relatively to each other, one of the wedge members being cut away to form a recess between the same and the channel shaped member and locking means located in the recess, the locking means engaging the channel shaped member and one of the wedge members for preventing undesired movement therebetween.

2,004,032. PAPER NAPKIN EMBOSSING, PRINTING, AND FOLDING MACHINE. John S. Burt, Highland Park, N. J., assignor to John Waldron Corporation, New Brunswick, N. J., a corporation of New Jersey. Application November 12, 1930. Serial No. 495,259. 21 Claims. (Cl. 270 — 78.)

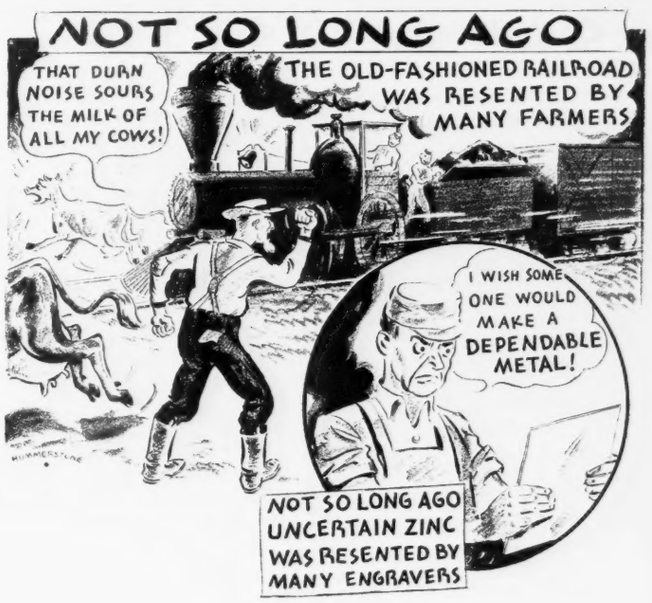
1. In a folder, a rotating roll having pairs of circumferentially-spaced, longitudinally-extending gripping jaws normally in gripping relation to one another, a tucking blade associated with the roll and operating in timed relation thereto for tucking a web between the jaws to be held thereby during rotation of the roll, a longitudinally-extending cutting blade arranged between adjacent pairs of jaws and a stationary cutter blade associated with the roll for co-action with the cutter blade to sever the trailing portion of the web from that gripped in the jaws.

2,004,129. APPARATUS FOR HANDLING STRIP MATERIAL. Adolph Potdevin, Garden City, N. Y., assignor to Potdevin Machine Company, Brooklyn, N. Y., a corporation of New York. Application January 8, 1932. Serial No. 585,519. 8 Claims. (Cl. 271 — 2.2.)

1. In an apparatus, the combination of feed rollers for continuously advancing a flexible web or strip, pinch rolls in the path of the advancing strip having a peripheral speed lower than that of the feed rollers to produce a slack in the material, and means to apply an air blast to one face of the material during the slack-forming operation.

2,004,202. TAG PRINTING AND STAPLING MACHINE. Albert F. Horton, Cranston, R. I., assignor to Boston Wire Stitcher Company, Portland, Maine, a corporation of Maine. Application November 2, 1928. Serial No. 316,836. 19 Claims. (Cl. 93 — 88.)

1. In a stapling-machine, the combination of a work-support, means for feeding tags or the like into position to be stapled to the work held on the support, an arm movable with respect


NOT SO LONG AGO
THAT DURN NOISE SOURS THE MILK OF ALL MY COWS!
THE OLD-FASHIONED RAILROAD WAS RESENTED BY MANY FARMERS
I WISH SOME ONE WOULD MAKE A DEPENDABLE METAL!
NOT SO LONG AGO UNCERTAIN ZINC WAS RESENTED BY MANY ENGRAVERS

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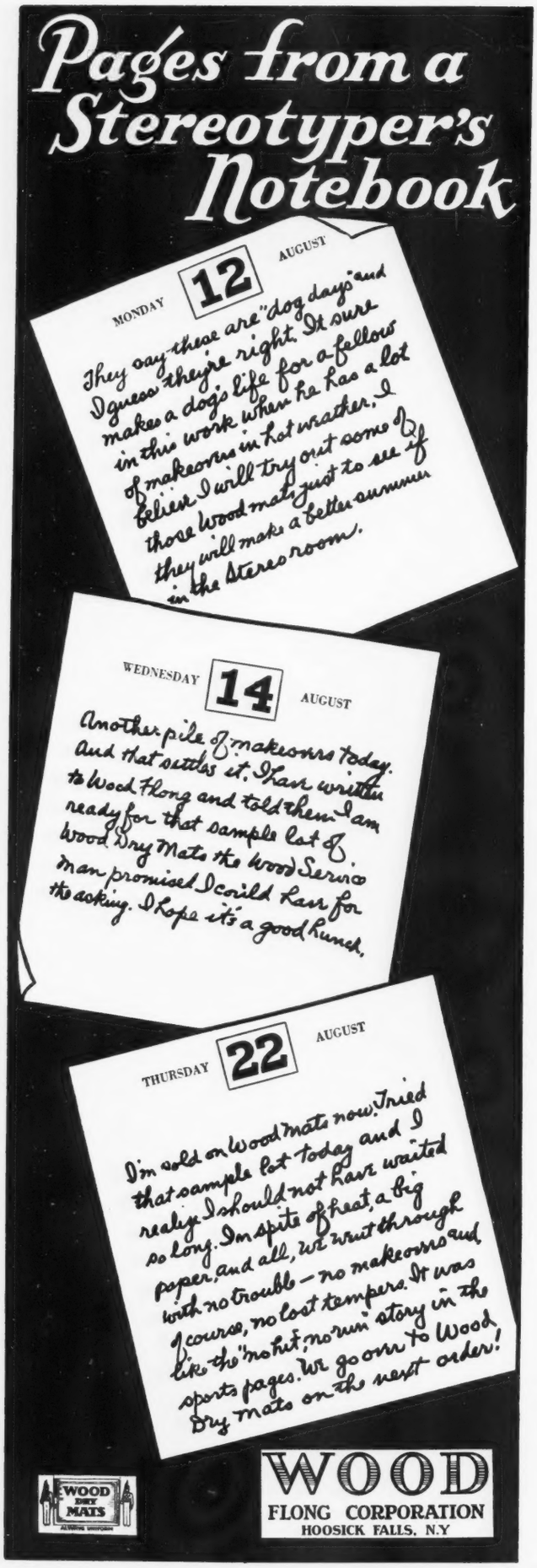
ZOMO ELECTRIC ZINC

A-Z ELECTRIC ALLOY


Pages from a Stereotyper's Notebook
MONDAY 12 AUGUST
They say these are "dog days" and I guess they're right. It sure makes a dog's life for a fellow in this work when he has a lot of makeovers in hot weather. I believe I will try out some of those Wood mats just to see if they will make a better summer in the Stereo room.
WEDNESDAY 14 AUGUST
Another pile of makeovers today. And that settles it. I have written to Wood Flong and told them I am ready for that sample lot of Wood Dry Mats the Wood Service man promised I could have for the asking. I hope it's a good lunch.
THURSDAY 22 AUGUST
I'm sold on Wood Mats now. Tried that sample lot today and I realize I should not have waited so long. In spite of heat, a big paper, and all, we went through with no trouble — no makeovers and, course, no lost tempers. It was like the "no hit, no run" story in the sports pages. We go over to Wood Dry Mats on the next order!
WOOD DRY MATS
WOOD
FLONG CORPORATION
HOOSICK FALLS, N.Y.

to the work-support, stapling-means carried on the arm and operative to insert the staples to attach the tags to the work, and printing-means operated from the stapling-means to print the tags as they are attached to the work.

2,004,508. PROCESS FOR THE MANUFACTURE OF PRINTING ROLLERS. Curt Neubert, Giersdorf, near Hirschberg, Germany. No Drawing. Application December 31, 1931. Serial No. 584,288. In Germany January 8, 1931. 2 Claims. (Cl. 106 — 23.)

1. The process of making printing rollers including the steps of mixing substantially one part concentrated aqueous caoutchouc, dispersion, one part gelatinous substance and two parts glycerine, coagulating the mixture, and vulcanizing the coagulate.

Printing Presses:

2,000,809. ROLL HANDLING MECHANISM. Henry A. Wise Wood, New York, N. Y. assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application September 30, 1930. Serial No. 485,425. Renewed February 7, 1934. 10 Claims. (Cl. 242 — 58.)

10. In a device for handling web rolls, the combination of a movable support, bearings aterally movable on the support for a fresh roll of paper, a normally inactive means adapted to drive the fresh roll to rotate the same and bring it up to web speed, and means for moving the support to effect contact of the fresh roll with a traveling web from an expiring roll carried by the support.

2,002,032. INKING MECHANISM FOR PRINTING PRESSES. Abel Kluge and Eneval Kluge, St. Paul, Minn., assignors to Brandtjen and Kluge, Inc., St. Paul, Minn., a corporation of Minnesota. Application March 22, 1933. Serial No. 662,097. 14 Claims. (Cl. 101 — 348.)

1. In a mechanism, saddle construction including a saddle block having spaced bearings for a pair of composition inking rollers and a mounting on the block for a vibrator roller, the mounting comprising a pair of bearing members individually slidably adjustable on the block, each member having an inclined seat portion complementing that of the other, the seat portions forming a V-rest for the vibrator shaft, the adjustment of the members enabling the mounting to support the vibrator roller in contact with both of the composition rollers.

2,002,584. PRINTING PRESS ROLL SHIFTING MEANS. Harry H. Rawson, Spokane, Wash., assignor to Washington Machinery & Supply Company, Spokane, Wash. Application November 17, 1933. Serial No. 698,451. 2 Claims. (Cl. 101 — 248.)

1. In a printing press comprising a frame having a pair of printing rolls mounted thereon, the combination with a system of driving gears one of which is a helical gear, and a system of driven gears arranged to rotate the printing rolls, of adjusting means for the rolls comprising a hollow hub having a pair of gears formed thereon in spaced apart relation, a rod slidably and revolubly mounted through the frame, the hub revolubly mounted on the rod and arranged to slidably move therewith, a threaded connection between the rod and frame, means for manually revolving the rod, one of the gears on the hollow hub having helical teeth meshing with the teeth of the helical gear of the driving gear system, the other gear meshing with one of the gears in the system of driven gears and the driven gears intermeshed and connected to the printing rolls whereby the rotative position of both rolls is adjusted when the rod and hub is revolved.

2,002,853. GRIPPER MECHANISM. William K. Eckhard, Dunellen, N. J., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, permanent trustee. Application October 2, 1931. Serial No. 566,485. 2 Claims. (Cl. 101 — 411.)

1. In a gripper mechanism, the combination of a frame, a rotary gripper carrier, a gripper shaft eccentrically and rotatably mounted on the carrier, a tumbler block secured to the gripper shaft for turning same to open and close the grippers, a pin fixed to the frame and coactable with the tumbler block to turn same when the carrier rotates, a roller secured to the tumbler block, a lever arm pivotally mounted on the carrier, a spring rod connected to the lever arm and carrier for pressing the lever arm into engagement with the roller, the lever arm having a single accurate operating face on which the roller rides, and means including a plurality of stops fastened in spaced relation on the carrier and directly engaging the tumbler block, for confining the movement of the tumbler block within predetermined limits.

2,003,544. INK FOUNTAIN REGULATOR. Hans C. Jordhoy, North Plainfield, N. J., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application June 30, 1932. Serial No. 620,124. 2 Claims. (Cl. 101 — 364.)

1. In an ink supply device for a printing press, the combination of an ink fountain and a chamber freely communicating with the fountain, a float located in the chamber, a lever having an arm to which the float is fixed pivoted at the side of the chamber, a mercury circuit-closing device located on the lever, a valve for supplying the fountain with ink, an electromagnetic closing and opening device for the valve in a circuit including the mercury closing device, whereby the valve will be opened by energy independent of the float when the float descends materially below its normal level.

2,003,639. PRINTING PRESS. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application February 9, 1931. Serial No. 514,376. Renewed April 19, 1934. 4 Claims. (Cl. 270 — 5.)

1. In a printing press, a plurality of perfecting press units each adapted to print a web, means for assembling the webs, a multiple impression unit adapted to make a plurality of impressions on a face of one of the webs, reversing means whereby the multiple impressions may be made on either face of the latter web as desired, and means for introducing the latter web at any desired position in the assembly.

2,004,136. PRINTING CYLINDER. Oswald R. Schultz, New York, N. Y. Application March 3, 1931. Serial No. 519,713. 7 Claims. (Cl. 101 — 415.1.)

7. Apparatus for multi-color printing including in combination, a plurality of cylinders, a printing form adapted to print a color part associated with each of the cylinders, each of the printing forms comprising a cellulosic layer having toned printing impressions embossed thereon immutably secured to a non-stretchable backing sheet, the layer extending substantially co-extensive with the backing sheet and means directly abutting the cellulosic layer for clamping the backing sheet to the associated cylinder so as to retain the embossed impressions and the cellulosic layer fixed and immovable, insuring absolute registry of the color parts on the finished printed work.

2,004,148. PLATEN PRINTING PRESS. Edgar J. Young, Trowbridge, Wilts, England, assignor to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio. Application October 15, 1931. Serial No. 568,931. 3 Claims. (Cl. 101 — 298.)

1. In a printing press, a platen, a movable form-carrying bed, a shaft below supporting the bed, and means in association with the shaft for regulating the parallelism of the bed with respect to the platen, the means including a variably-positionable carrier for the shaft and means for setting and retaining the carrier at any desired point in its range of positions.

2,004,149. PLATEN PRINTING PRESS. Hans Honigman, East Cleveland, Ohio, assignor to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio. Application October 21, 1931. Serial No. 570,061. 4 Claims. (Cl. 101 — 297.)

1. In a printing press of the Gordon type, a platen, an oscillatory form-carrying bed adapted to contact therewith, bushings rotatably mounted in the bed and provided with eccentric openings which form aligned bearings, a back-shaft journalled in the bushings, the back-shaft being oscillatory in the bushings to locate the bed for printing and throw-off positions respectively, and means for rotatively adjusting the bushings in their bearings within predetermined limits without rotating the back-shaft in the bushings so as to vary the position of the back-shaft to thereby regulate the impression of the form upon stock on the platen.

2,004,801. PRINTING PRESS. Joel F. Sheppard, Dover, N. H., assignor to U. P. M.-Kidder Press Co., Inc., Dover, N. H., a corporation of Delaware. Application May 12, 1933. Serial No. 670,682. 20 Claims. (Cl. 101 — 352.)

1. A printing press having, in combination, a printing section, an ink distribution section, means to move one of the sections relatively to the other to produce an open or closed press, a form roller frame, means on the frame and on each of the sections for supporting the frame on a section, and mechanism for transferring the frame from one section to the other.

16. The method of preparing a printing press for making individual radial adjustment of the form rollers of its movable ink distribution mechanism to the plates on its plate cylinder which comprises advancing the inking frame including the form rollers to a closed press position, disconnecting the form rollers from the inking frame and locking them in printing relation about the printing plates, then withdrawing the remainder of the ink distribution train to leave space in front of the form rollers for an operator to work while making the radial adjustments.

2,004,812. PLATEN PRINTING PRESS. Lawrence R. Johnson, Cleveland, Ohio, assignor to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio. Application April 11, 1934. Serial No. 720,083. 10 Claims. (Cl. 101 — 408.)

1. In a platen printing press, the combination of a platen, means for oscillating the platen between the sheet-receiving and printing position, grippers mounted for pivotal movement with respect to the platen and adapted to engage a sheet on the platen when the latter is in printing position, and means for maintaining the grippers in engagement with the sheet until the platen has returned to substantially the sheet-receiving position.

Decision in Infringement Suit:

Judge Fred. M. Raymond, of the U.S. District Court at Grand Rapids, Mich., rendered a decision in the patent infringement suit brought by Ideal Roller & Manufacturing Company against Samuel Bingham's Son Mfg. Co. and Sutherland Paper Co. The Court ruled that the method or process claims of the Davis patent (controlled by Ideal) covering the coating of base rollers with glue or gelatine composition, were valid and infringed by Bingham's method of coating rollers on machines similar to those put out by Ideal, but that two other machines supplied by Bingham did not infringe. Officials of the Ideal company, it is reported, have indicated their intention of appealing for a reversal of that part of the opinion which held the operation of two of Bingham's machines did not constitute infringement.

Graphic Arts Patent Attorney

Earl D. Rader, until recently associated with the Dexter Folder Co., in charge of that company's patent department, is now a practicing graphic arts patent attorney with offices at 420 Lexington Ave., New York, N. Y.

Mr. Rader is well known in the printing industry. He has been associated with several printing and binding plants in various parts of the country. He is a graduate civil and mechanical engineer, is a registered patent attorney, and besides being a member of the American Society of Mechanical Engineers, he carries a withdrawal card from Local 133, International Brotherhood of Bookbinders, and a non-working Journeyman's card from Local 467, International Association of Machinists.

Besides being an inventor of printing devices, Mr. Rader is an author and has written several books on printing, ruling and binding. It is said that the slogan, "Share Your Knowledge," adopted by the International Club of Printing House Craftsmen, was originated by Mr. Rader in a talk at the New York Hotel Navarre, March 17, 1921.

Correction

In the June issue of *Printing* EQUIPMENT *Engineer* an omission was made in the "Favorite Sensitizer" formula printed in connection with Frank O. Sullivan's article on "Photo-Lith, Cleanliness of Supreme Importance Throughout Process."

The complete formula and directions are as follows:

FAVORITE SENSITIZER

The plate is drained off and placed in the whirler for coating with the regular albumin sensitizer. The favorite formula, although there are many variations of this particular sensitizer, is the following:

Bichromate Ammonia	8 or 10 drops
Egg albumin (flake and preferably Merck's)	3 ounces
Water	32 ounces
Ammonia	15 to 20 drops

After mixing this solution, a piece of cotton should be placed in the bottom of a glass funnel and solution filtered through it into a glass container. When pouring on the press plate, a piece of cheese cloth should be placed over the mouth of the container to avoid bubbles on the plate.

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New Size Paper Cutter

The Challenge Machinery Company announces that the Challenge-Diamond Power Paper Cutter is now being marketed in a new 36-inch size. Heretofore 34½ in. has been the largest size available. This new model will readily cut a 3¾-in. pile of paper the full width of the machine. While handling the larger-sized sheets, the dimensions of the 36-in. cutter do not differ radically from the 34½-in model. He'ght from floor to table is still 38 in. Width of the cutter over all has been increased 3 in. to 64 in., while 3 in. have also been added to its over-all length, making it 74 in. Height over all remains 60 in. No additional horse power is required to operate the new cutter. The 2 h.p. recommended is the same as that specified for 30½-in. and 34½-in. sizes.

The 36-in. cutter is provided with the following regular equipment: One Knife, Four Cutting Sticks, One Steel Knife Guard, and a removable False Plate Clamp.

Further particulars may be obtained from the Challenge Machinery Co., in care of *Printing* EQUIPMENT *Engineer.*

Announces Memphis Medium

Announcement is made by the Mergenthaler Linotype Company of a new cutting in the Linotype Memphis family. "Memphis Medium with Italic may now be had on two-letter matrices in the 6, 8, 10, 12 and 14-pt. sizes, with 18-pt. Memphis Medium and Medium Italic available in one-letter matrices," says C. H. Griffith, assistant to the president of the Mergenthaler organization, "and other sizes are in process of manufacture."

Following is a one-line showing in the 12-pt. size of Memphis Medium with Italic:

ABCDEFGHIJKLMNO 123
ABCDEFGHIJKLMNO 123

Seven sizes of Lining Metromedium and Metrothin—three sizes of 6 point and four sizes of 12 point, have been announced. One line specimen is shown below:

ABCDEFGHIJKLMNOP 123
ABCDEFGHIJKLMNOP 123

Specimen of Mergenthaler's new cutting of Metromedium with Metrothin.

These faces are intended for business cards, letterheads, and other items of stationery calling for various combinations of capitals in different weights in the same type families.

Ink Clouding

(Continued from page 12)

formed by the shattering of the larger one, charged with positive electricity. Thus small droplets formed by the shattering of a larger rain drop require positive electric charges at the time of their creation.

This presents us with a very interesting fact, the shattering of a liquid film results in the creation of very minute particles which in the shattering acquire electric charges. If the electric charges are sufficiently large the minute particles will repel each other and not coalesce to form larger drops but will form a cloud which can be carried about by air currents.

In the transfer of ink from the fountain through our train of rollers, drums and cylinders we are frequently drawing ink into filaments and films which become attenuated and shatter. The minute particles caused by the shattering become electrically charged and may repel one another. Static from the press or other sources might help to cause this charge to be quite large.

The very press speed itself causes sufficient air currents to blow the newly-formed "cloud" about the pressroom. Im-

proper ventilation (listed above as cause No. 3 for "flying") can also influence the circulation of the cloud about the room. Too stringy an ink tends to cause the production of too much attenuated films or filaments and thus increases the mist on shattering and also the resultant cloud. Improper roller setting (listed as cause No. 8 for "flying") can do the same thing. If blankets or rollers are uneven or imperfect (causes No. 6 and No. 7), they may cause uneven ink distribution especially where there are cracks or depressions to hold small wells of ink which may be drawn out into filaments which may shatter and produce clouds.

As the ink is transferred from one roller to another or to drum or cylinder or to blankets the ink from uneven or imperfect rollers is more apt to string out than if the rollers, cylinders, or blankets were more perfect. Of course, we all know of the stringing out of the ink when too much ink is being transferred from one roller to another. This produces attenuated films which must eventually snap and the charged particles of ink drift away as mist accounting for listed cause No. 9, which is the carrying of too much ink.

Why is it that increased humidity and heat in a pressroom decreases ink flying? The answer is plain. They help to dissipate or prevent the charge on the ink cloud.

It has been *repeatedly* demonstrated that moisture and heat will cause leaks of electricity and this accounts for the fact that ink clouds less, or not at all, under conditions of high humidity and temperature, for the small particles of ink must lose their charges and so can coalesce and then will not cloud. Thus we can explain causes Nos. 2 and 4 listed above which have been given for ink misting, namely, influence of temperature and humidity.

During 1931, in an article on "Ink Misting" in *The American Pressman*, Carl Drange states: "In my mind the explanation of this great change lies in the method of ink feeds. It is with us, says Drange, because in certain ink feeds there is lacking a positive contact of the ink with the inking surfaces." He goes on to explain, "in some systems there is no firm contact in the ink feed and a considerable amount of ink is thrown into space atomized, a portion of which goes into the air to follow the air currents."

Also Mr. Drange states that certain machines equipped with ink ductors have also produced an ink mist due to the design of the cam action of the ductor. The ductor roll approaching the fountain roller too slowly, spins while in contact with the ink film before it makes actual contact with the fountain roller. Also the ductor mounting may be so unstable that the ductor roller rebounds when it contacts the fountain roller, and then in this case also an ink spray is produced.

The correct ductor roller actions, according to Drange, produce a quick, firm contact without rebound and completely eliminates excessive ink misting. He says that presses provided with that sort of ink ductor feeds are running at the highest speeds in use without any ink fog.

I do not wish to enter into any discussion on the merits of press design, but I quote Mr. Drange merely to cite his theory that shattering of ink films or filaments may cause ink misting.

As far as he has gone he seems to me to have a correct basic idea of ink misting. Shattered films do produce a spray. However, I do not feel Mr. Drange has gone far enough. They can produce an *ink cloud*, all the particles of which become charged due to the shattering of the ink film or filament. Due to the particles being similarly charged they may repel one another and thus form a cloud which may float about the pressroom to give the phenomena we call ink "flying" or "misting."

To minimize ink misting, rollers and blankets should be in good condition and rollers should be properly set. The

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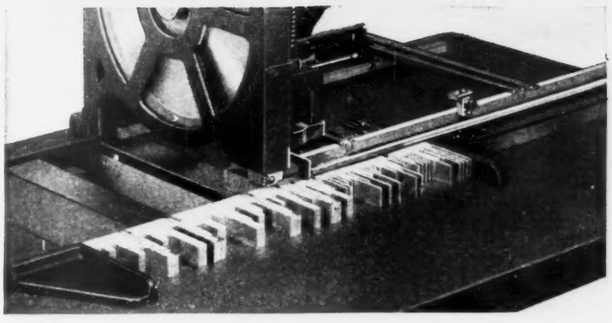

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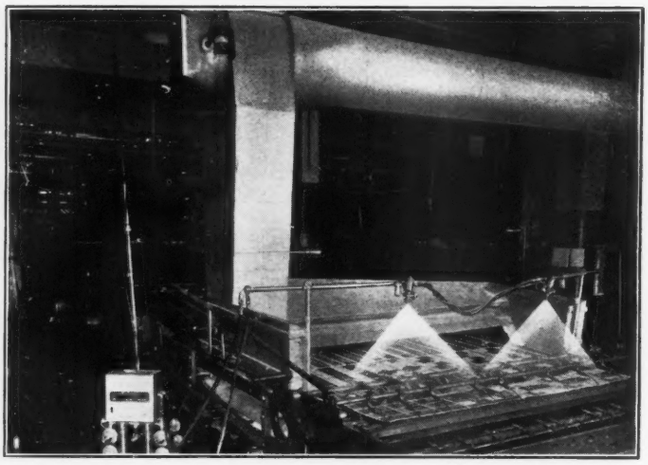

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humidity and temperature should be relatively high and the ventilation good with not too strong drafts.

With these precautions the shattering of ink filaments or films will be reduced to a minimum which will decrease the atomization of the ink and also resultant electrification of the ink particles due to the shattering of the films or filaments.

But in addition even more than usual care should be taken to properly ground the press. This well grounding of the press is exceedingly important. I have been able to show that if a rather heavy film of ink is brought near to a body having a static charge, an electric charge of opposite sign will be built up on the ink film or filament itself by electrostatic induction. If the charge on the press frame or the main body of the press is allowed to build up large enough, it will induce a large charge of the opposite electricity in the ink. Thus the ink already would be carrying a charge before shattering and this would greatly increase the stability of the cloud formed and increase flying trouble. Also because the frame of the press and the ink are charged with different electricity the ink is apt to draw away from the rollers over to the press because of electrical attraction. This attenuation of the ink would produce more shattering of ink and the formation of more clouds.

The extra precaution in well grounding of the press should aid to prevent electrification of the ink before and after shattering of the ink film and should, I believe, relieve the situation enough in some cases to prevent "flying" or "clouding."

In the event that the ink, in spite of all these precautions, still clouds, there is still a remedy and this is a simple expediency. At various points on the press when film attenuation or shattering does take place, as at contacts between ductor and ink fountain rollers, or at contact between any of the various rollers, cylinders, or drums, metallic members such as wires, bars or mesh may be placed parallel to the rollers, insulated from the press. These, then may be charged with electricity of sign opposite to that on particles of ink cloud which is forming. Thus the cloud will be dissipated almost as soon as it is formed by neutralizing the electric charge on the particles.

Summarizing the above, I find myself in agreement with the various factors listed in the ANPA Bulletin, as being possibly contributory to ink flying. We have been right in assuming that ink itself is only one factor. We are right in recognizing also that "misting" may be due to any of the causes which make for ununiform ink distribution. Our notations on proper pressroom conditions have been accurate.

What we did not know, to really understand "ink misting," was that the ink, during transfer, not only forms a spray or mist but this becomes electrified and being electrified, forms clouds which do not settle because each particle in the cloud repels its neighboring particle.

The cause of ink "misting," or better *ink clouding*, is the shattering of films or filaments with the formation of clouds, composed of minute electrically charged particles which repel one another.

The remedy is to minimize the conditions which make for the shattering of filaments and films and the atomizing of ink, and to prevent, as far as possible, the electrification of particles found.

As an additional safeguard, presses might be equipped with metallic members at strategic points, parallel to the rollers and insulated from the press. These charged with electricity of sign opposite to that on any ink cloud forming will dissipate the clouds as soon as they are formed.

I believe this discovery marks, if not the end, at least the beginning of the end of ink misting, or may I more correctly say, ink clouding.

• Technical Literature

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☐ *Stringing and Knotting Machine*—Circular illustrates and describes new machine for putting loop of thread or cord in uniform and odd-shaped stock of any kind.

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☐ *A Record of Progress*—Four-page folder illustrating and describing supply parts for application to line-composing machines.

☐ *Linotype Typographic Developments*—Bulletin showing latest punchings of several sizes of Memphis, Metromedium with Metrothin, Cloister Bold and other faces, including logotypes for several faces.

☐ *Steel Desks, Tables and Cabinets*—Illustrated bulletins giving information relative to furniture for use in printing plant.

☐ *The Brush Phase of Motor Maintenance*—New edition has been brought up to date with additions and changes in the text matter.

☐ *Booklet*—Printed from rubber plates on various kinds of stock with various treatments with discussion on adaptabilities and limitations of rubber printing plates.

☐ *Egmont*—Folder with specimen showings of a new type face.

☐ *Advance Showings of Intertype Faces*—Including faces for composing stick attachment; 12, 18 and 24-pt. chess characters; border matrices; Bookface with Italic and small caps; Beton and other matrix faces.

☐ *Specimens of Bodoni*—Twelve-page booklet in which is shown Monotype Bodoni in several sizes set in book page form.

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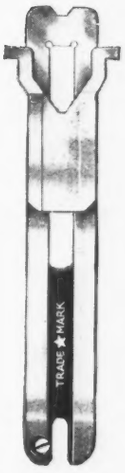

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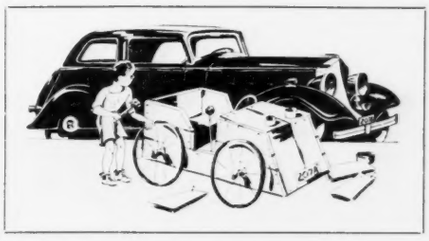

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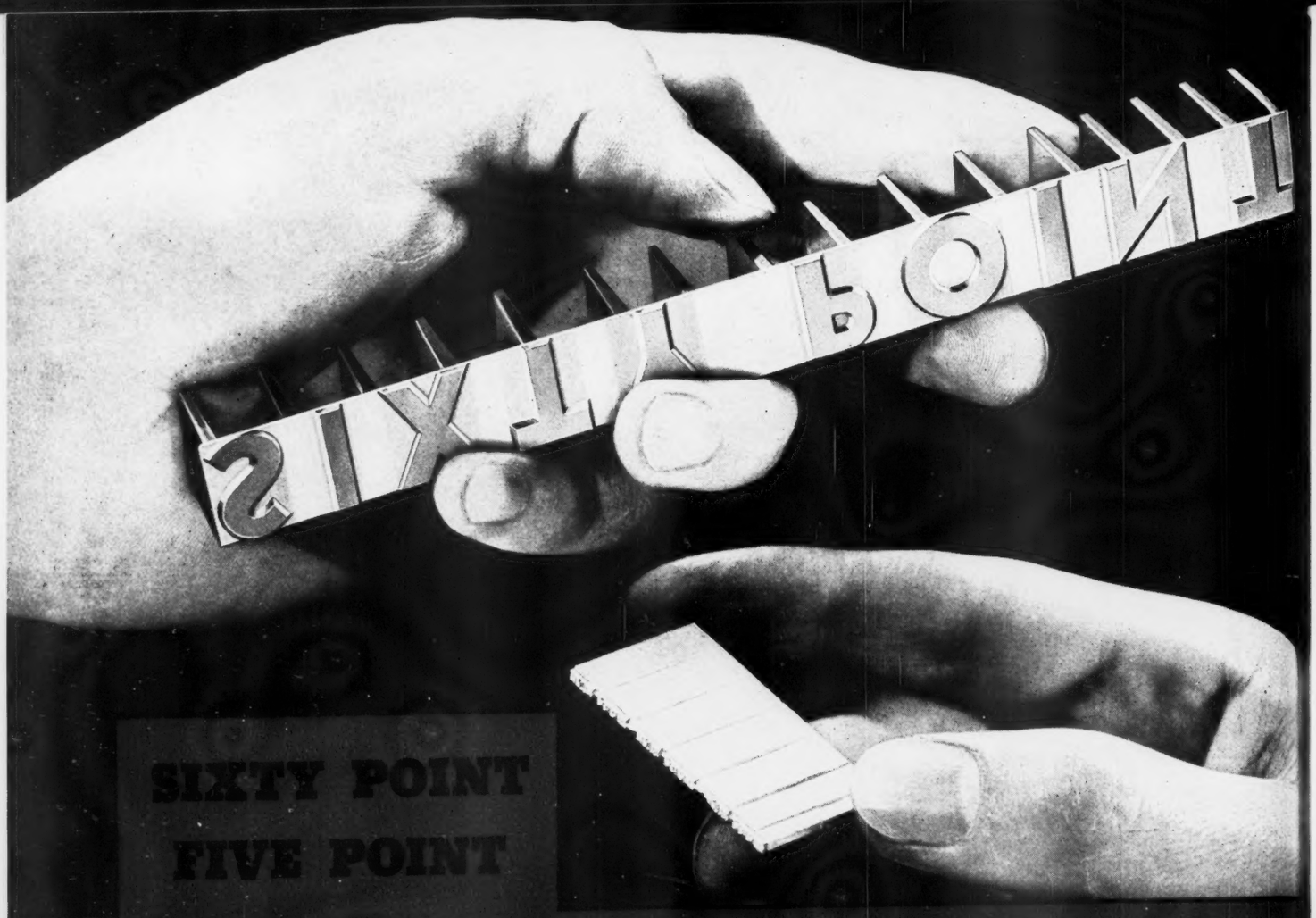

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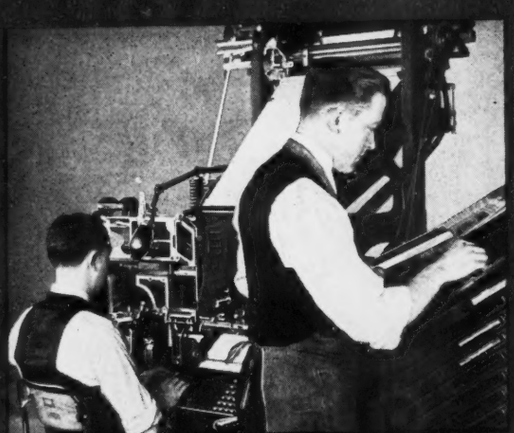

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